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# PUBLIC HEALTH REPORTS

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## PUBLIC HEALTH ADMINISTRATION IN WEST VIRGINIA.

### A STUDY OF THE HEALTH LAWS AND PUBLIC HEALTH ADMINISTRATION OF THE STATE OF WEST VIRGINIA.

By TALIAFERRO CLARK, Surgeon, United States Public Health Service.

The State of West Virginia desires to preserve the health of its people, to protect them from unnecessary sickness and disease, to promote their well-being, and lengthen the duration of their lives.

The authorities of the State realize that at present they can not control the preventable diseases, inasmuch as they have no adequate means of knowing of the occurrence, distribution, or prevalence of these diseases; the present law providing for the reporting of the occurrence of cases being ineffectual.

The authorities of West Virginia realize that at present the duration of the lives of the people of the State is unknown, due to the existing inadequate provisions for the registration of births and deaths. They desire complete records of the lives of the people, of births and deaths, that the common welfare may be protected.

For these reasons the governor of West Virginia and the State health authorities have asked assistance of the Federal Government in making an investigation of the public health administration of the State, and an analysis of the laws under which it is conducted, to the end that steps may be taken to correct existing administrative faults and to devise new measures for the better protection of the public welfare.

### THE STATE BOARD OF HEALTH.

The present health laws of the State are administered by a State board of health, originally organized under an act of the legislature of 1881. In its present form, the board is composed of 12 members appointed by the governor, two from each congressional district, and two at large, pending a redistricting of the State.

*Eligibility.*—To be eligible under the law for appointment to the State board of health, a candidate must be a graduate of a reputable medical school, must have practiced medicine continuously for not less than six years immediately preceding appointment, and must

not be a resident of the same county from which a member of the board has already been appointed.

*Tenure of office.*—Members of the board are appointed for four years and in such manner that the terms of office of one-half of the membership of the board shall expire every two years. Vacancies are filled by appointment for the unexpired term.

*Salaries.*—Members of the State board of health receive no annual salary, but are allowed \$4 per diem and expenses actually and necessarily incurred by them while in the actual discharge of the duties of their office.

*Officers of the board.*—The board has two officers, a president and a secretary. The president is elected by the board from its own membership every two years, and holds office for the term of two years and “until his successor has been elected and entered upon his duties.”

*The secretary of the State board of health* is named by the governor from one of their number, and he is also ex officio State health commissioner.

*General powers and duties.*—The original act of 1881, organizing a State board of health, has been amended and reenacted from time to time by the legislature, granting additional powers and imposing other duties, with the result that at the present time but few State health organizations have reposed in them greater authority in certain health matters than the State board of West Virginia. The legislature has, however, failed to provide an adequate force with which to execute health laws to the best advantage.

The general powers and duties of the board may be divided broadly into two classes: (a) Advisory, investigative, and supervisory, and (b) regulative and compulsory. These powers and duties are as follows:

(a) Advisory and other similar powers and duties:

(1) To advise the executive and legislative authorities and the people of the State in questions involving the protection of the public health within the State.

(2) To take cognizance of the interests of the life and health of the inhabitants of the State.

(3) To make or cause to be made sanitary investigations and inquiries respecting the cause of diseases, especially epidemics, endemics, and the means of prevention; the source of mortality and the effects of localities, employments, habits, and circumstances of life on the public health.

(4) To inspect and examine the food, drink, and drugs offered for sale or public consumption.

(5) To report all violations of the laws of the State relating to pure food, drink, and drugs to the prosecuting attorney.

(6) To investigate the causes of disease occurring among the stock or domestic animals in the State and the methods of remedying the same.

(7) To gather information in respect to the public health and kindred subjects for diffusion among the people.

(8) To examine into and advise as to the water supply, drainage, and sewerage of cities, towns, and villages.

(9) To examine into and advise as to the ventilation and warming of public halls, churches, schoolhouses, workshops, prisons, and all other public institutions.

(10) To examine into and advise as to the ventilation of coal mines and how to treat promptly accidents resulting from poisonous gases.

(b) The specific powers and duties of the State board of health are numerous and as follows:

(1) To (may) make and adopt all necessary rules, regulations, and by-laws, not inconsistent with the laws or constitutions of the State or the United States, to enable it to perform its duties and transact its business in conformity to the provisions of the enabling act.

(2) To take action and to adopt and enforce such rules as may be deemed efficient to prevent the introduction and spread of (contagious) disease or diseases.

(3) To establish and strictly maintain quarantine at such places as it may deem proper.

(4) To adopt rules and regulations to obstruct and prevent the introduction or spread of contagious or infectious diseases into or within the State, with power to enforce these regulations by detention and arrest.

(5) To enter into any town, city, or corporation, factory, railroad train, steamboat, or any place whatsoever within the limits of the State for the purpose of investigating the sanitary and hygienic conditions.

(6) To take charge, at its discretion, of any epidemic or endemic conditions arising within the limits of the State and enforce such regulations as it may prescribe.

(7) To cause to be kept in the office of the secretary, vaccine lymph, diphtheria antitoxin, and other form of serum preventive of disease, to distribute the same to county and municipal health officers, free of charge, for use for the benefit of the poor and indigent and to check contagion.

(8) To appoint county health officers, upon the recommendation of the county court of any county, and to remove them for cause.

(9) To hold a school of instruction once each year to familiarize county and municipal health officers with their duties in the interests of the public health.

(10) To exercise jurisdiction over all city, town, and village boards of health or health officers.

(11) To hold examinations to determine the fitness of applicants to practice medicine and surgery within the State.

(12) To refuse certificates of license to practice medicine within the State to individuals guilty of malpractice or dishonorable conduct, and to remove certificates for like causes.

(13) To make rules and regulations, effective when approved by the attorney general and the governor, governing hotel inspections.

(14) To have supervision of the State system of registration of marriages, births, and deaths.

(15) To establish rules and regulations to make effective the prohibition of the use of the common drinking cup in all public places within the State.

*Meetings.*—The State board of health meets regularly three times each year. The secretary can call special meetings of the board at the direction of the president or upon the written request of any three of its members.

*Comments on the board as now constituted.*—The membership of the State board of health, as now organized under the act of 1881, is

unnecessarily large; in fact too large for effective work; it is unwieldy. Furthermore, under the present qualifications for membership, appointments can be more in the nature of political reward than because of any special fitness to serve on a board invested with large discretionary powers in devising and enforcing measures for the preservation of the public health.

With respect to powers and duties the State board of health is invested with large discretionary and broad regulative faculties. The law creating the board does not provide, however, for an effective sanitary organization for the execution of its mandates.

That provision of the act directing the State board of health to investigate the causes of disease occurring among the stock or domestic animals in the State and the methods of remedying the same would appear to impose a duty of the Federal and State Departments of Agriculture on the State board, which is not properly the function of a public-health organization.

The power of the State board of health to compel the abatement of nuisances is limited, and should be extended.

With respect to quarantine and the control of contagious and infectious diseases the law is quite clear; its provisions will be discussed under appropriate headings.

A number of the discretionary powers and duties are in need of amplification. Especially is this true in regard to domestic water supplies, stream pollution, sewerage, excreta disposal, and inspections of public buildings and public institutions. These measures also will be discussed under suitable headings.

The power of the State board of health to prescribe and enforce regulations is broad and general. For this reason, in order that regulations may have additional force and weight, this general power should be supplemented by definite authority under the law to prescribe rules and regulations in more specific instances than is now the case.

#### STATE HEALTH COMMISSIONER.

The secretary of the State board of health is ex officio State health commissioner, and is "named" by the governor from one of their number. His term of office is four years. He must be a physician in active practice at the time of appointment, and is required to devote his whole time to the duties of the office.

The salary is fixed by the State board of health, not to exceed the sum of \$3,000 per annum with, in addition, traveling, clerical, and other necessary expenses incurred in the performance of his official duties within the limits of the State.

*Duties of the secretary and State health commissioner.*—The following are the duties of the secretary:

- (1) To be the recording officer of the board.
- (2) To respond to all communications from members of the State board, reputable physicians, and officers of the State, and furnish advice as to measures, sanitation, or other matters connected with the public health and safety.
- (3) To be custodian of all books and papers, instruments, or appliances belonging to the State board of health.
- (4) To do and perform such other duties as the State board may lawfully direct.
- (5) To visit localities in time of undue prevalence of certain diseases, at the request of local health officers, and advise with such health officers as the State board may direct, and to aid in the adoption of regulations for the suppression of such diseases.
- (6) To administer oaths and take and certify affidavits in matters pertaining to the business of the board, or of any of the members thereof.
- (7) To issue certificates of license to practice medicine and surgery within the State, jointly with the president of the State board of health.
- (8) To be registrar of vital statistics.
- (9) To report annually to the governor each year's investigations, discoveries, and recommendations of the board.

The secretary has also other specific duties, such as filing reports of expenses of hotel inspections, certification to the State auditor of all moneys received by the board, issuing of blank forms, and recording of certain certificates, all of which duties are routine and administrative in character.

*The executive office.*—The executive office is located in Wheeling, W. Va., and consists of two small rented rooms. The personnel of the office with annual salaries is as follows:

Secretary of State board of health (State health commissioner).....	\$3,000
One stenographer, at \$75 per month.....	900
Total.....	3,900

Under the present law the duties of the secretary of the State board of health are circumscribed and largely confined to the routine of administrative matters and execution of the directions of the State board. He is allowed no latitude, is invested with no discretionary powers, and in time of stress and sudden emergency is helpless without the advice and direction of an unwieldy and widely scattered State board of health. Moreover, under the law the secretary is allowed necessary traveling expenses only within the limits of the State. By this restriction the secretary of the State board is debarred from traveling to other States to participate in public-health meetings and conferences in the interest of the State except at his own expense.

#### LEGAL ADVICE.

The State board of health has no special legal adviser; county courts and local prosecuting attorneys are directed by law to take action in prescribed cases. In all other legal matters advice is secured from the attorney general of the State.

**LOCAL BOARDS OF HEALTH AND THEIR RELATION TO THE STATE BOARD.****County Boards of Health.**

*How constituted.*—The president of the county court, the prosecuting attorney, and the county health officer constitute the county board of health. The county health officer must be a legally qualified physician, and is appointed by the State board of health upon the recommendation of the county court.

*Jurisdiction.*—The jurisdiction of county boards of health does not extend to any town or city in the county having a board of health of its own, but they may be and are auxiliary to each other.

*Relation to the State board of health.*—All county boards of health or health officers are subordinate to and subject to all orders of the State board of health. The State board, at its discretion, may act through the county board.

*Powers and duties of county boards of health.*—

(1) To exercise all the rules and regulations of the State board of health so far as applicable to such county.

(2) To declare quarantine against the introduction of contagious or infectious diseases and of all persons and things likely to spread such contagion or infection.

(3) To inform the members of the State board of health residing in its congressional district, in writing, of the establishment of such quarantine as soon as established.

(4) To have power and authority to enforce such quarantine until raised by themselves or the State board of health. Failure to obey the directions of the board in enforcing such quarantine is a misdemeanor, punishable by a fine of not less than \$25 nor more than \$100 for each offense.

(5) To have the same powers of quarantine, inspection, detention, and disinfection of steamboats and railroads as the State board, its agents, and employees.

*Salaries and duties of county health officers.*—The salaries of county health officers are fixed by law at not less than \$100 per annum, "and such other amount as the county court may add for additional services" and actual necessary travel expenses.

The duties of the county health officer are:

(1) To be the executive officer of the county board of health.

(2) To make a full report every three months to the State board of health relative to the character of all epidemics, endemics, infectious or contagious diseases arising within the county during the quarter, the number of cases reported, character of the infection, and the action taken by the county board.

(3) To meet with the State board of health, or its representatives, once each year, and to attend a school of instruction for the purpose of familiarizing themselves with their duties in the interest of public health.

**Boards of Health of Municipalities.**

*How constituted.*—The composition of municipal boards of health varies in different cities, towns, and villages of the State, depending upon the provisions of their incorporating charters, which also provide for the appointment of the local health officers. Since the adop-

tion of amendments to the State public health laws by legislative acts of 1913, the jurisdiction of the State board of health over these appointees, is not clear. In the event of the adoption by the State of a uniform municipal incorporating law prior to its adoption there should be incorporated in it a provision which would insure uniformity of local health organization and administration and responsibility of all local boards to the State board of health. A committee of the State board of health should be appointed to advise and consult with the framers of this proposed law, in order to provide for the desired uniformity of organization, and the proper adjustment of the relations which should obtain between such municipal health organizations and the State board of health. This supervision, however, appears to be the intent of the present law, in view of the general jurisdiction of the State board over all local boards conferred by law.

*Powers and duties.*—The general powers and duties of municipal boards are:

(1) To have certain powers and duties prescribed by the charter of incorporation and conferred by local ordinances.

(2) To have the same powers and perform the same duties conferred by law and required of the county boards of health of their respective counties.

(3) To (may) require and compel connection of buildings with sewers under certain conditions.

(4) To exercise, in the absence of the State board, its agents, and employees, the same powers of quarantine, examinations, detentions, and disinfection of steamboats and railroad trains as the State board of health.

*Jurisdiction of municipal boards of health.*—The jurisdiction of municipal health officers is restricted to the corporate limits of their respective localities. All city, town, and village boards of health or health officers are secondary and subject to all orders of the State board of health, which may, if deemed expedient, act through such local boards.

#### **Relations of All Local Boards of Health to the State Board.**

Local boards of health are supplemental to the State board of health, and are intended, primarily, to adapt the general health laws and regulations of the State to local conditions, and to enforce them. Furthermore, local boards of health are empowered to carry out local health ordinances with respect to local conditions that are not in conflict with the general health laws of the State.

The results of this system on the health of the State are measured largely by the tact, skill, training, and personal inclinations of local health officers. It is therefore desirable that the general health authorities of the State have intimate supervision of local boards of health and local health officers, and means should be provided by law to attain this end.



### REGULATIONS.

The right of State legislatures to invest State boards of health with power to adopt rules and regulations necessary to secure the object of their organization has been affirmed by judicial decision.

While it is true that the character or nature of such boards is administrative only, still the powers conferred upon them by the legislature, in view of the great public interests confided to them, have always received from the courts a liberal construction, and the rights of the legislature to confer upon them the power to make reasonable rules, by-laws, and regulations is generally recognized by authorities. (*Blue v. Beach*, 155 Ind., 121; also *Isenhour v. State*, 157 Ind., 517.)

The State Board of Health of West Virginia has been invested by the legislature with authority to adopt rules and regulations to enable it to perform its duties and transact its business; to adopt and enforce rules necessary to prevent the introduction and spread of disease; to obstruct and prevent the introduction or spread of contagious or infectious diseases into or within the State; to control epidemic or endemic conditions arising within the limits of the State; to make effective the prohibition of the use of the common drinking cup; and to govern hotel inspection.

Up to the present time the State board of health has issued but few regulations in accordance with these provisions, and those that have been adopted have never been published. Recently, however, steps have been taken by the State board to have a compilation made of all of its rules, regulations, and by-laws and to have this compilation printed in a form for distribution.

Health administration in some States shows a tendency, more and more, to become centralized and legislatures seem inclined to extend the powers of State health organizations through specific legislation. In the State of West Virginia, however, a great deal of such power is discretionary—that is, qualified by the word “may” instead of “shall”—and the wise exercise of such power is therefore largely dependent upon the technical training and executive ability of the personnel of this administrative body, the State board of health.

As a matter of fact, as now constituted and organized the State Board of Health of West Virginia is not in a position satisfactorily to enforce its regulations, however wise and desirable their provisions may be. The necessity for a complete reorganization of the State health administration is apparent, and the provision of more men and money is necessary to enforce the laws enacted for the protection of the public health.

A number of the advisory and discretionary powers of the State board of health would be strengthened with advantage to the public health of the State if the legislature would invest the board with specific regulative authority. Especially is this true with respect to the sanitary supervision of public buildings, institutions, coal mines, and sources of water supply and places of sewage disposal.

### THE CONTROL OF COMMUNICABLE DISEASES.

The State board of health has no bureau of communicable or preventable diseases, the necessary authority and needful appropriations not having been provided. It employs no trained epidemiologist and has no forces for field inspections. The duties of the State board in this respect devolve upon the individual members of the board, usually the member residing nearest the field of operation. The discharge of such duties entails considerable personal sacrifice and, at times, financial loss upon members so engaged, who receive no annual salary, but are paid the small honorarium of \$4 per diem and necessary traveling expenses.

A system devised along such lines can not be productive of satisfactory results. Especially is this the case with respect to the supervisory obligations of the State board to local health officers, not only from the standpoint of aid and advice, but also of the moral support of a great central agency in its influence on community opinion and prejudice, an important consideration in remote districts.

The State board of health is, however, invested with ample authority to control contagious and infectious diseases. It has conferred on it the power to require notification of communicable diseases by local health officers, school medical inspectors (indirectly) and practicing physicians; to establish and maintain quarantine and to practice disinfection; to enter and inspect; to detain common carriers. The State board also has the use and control of a hygienic laboratory, but unfortunately is not charged with the administration of the existing vaccination law, which is a serious defect. The State board has authority, however, to purchase and distribute, free of charge, vaccine and antitoxins to check contagion. The county court may also enforce within the county such general regulations as are necessary or proper to secure the inhabitants from epidemic, contagious, or infectious diseases, or direct in any particular case the adoption of the proper measures for that purpose.

*Notification of communicable diseases.*—Notification to the State board of health of the presence of cases of contagious and infectious diseases is required by law—a requirement not generally observed. The value of reports of sickness is discussed further on in this report under "Vital statistics."

The requirements of the law are as follows:

- (1) All practicing physicians to report every case of contagious or infectious disease that may arise or come under their treatment to the county officer.
- (2) County health officers to make a full report to the State board of health, at least every three months, of all epidemic, endemic, infectious, or contagious disease.

The law provides inadequate penalty for neglect by physicians to discharge this duty. Under the present system the State board of

health is without accurate information of the prevalence of communicable diseases within the State. The desired information may best be obtained, with small additional cost, through the adoption of the model State law for morbidity reports, the advantages of which are discussed later on under "Vital statistics."

*Quarantine.*—The general quarantine provisions of the law are as follows:

(a) Powers and duties of the State board of health.

(1) To establish and maintain quarantine at such places as the board may find necessary.

(2) To employ quarantine guards at the expense of localities.

(3) To adopt rules and regulations governing quarantine.

(4) To receive written report as soon as quarantine has been established by local health authorities.

(5) To determine the necessity for quarantine when imposed by local boards of health.

(6) To raise quarantine imposed by local boards of health when found to be not necessary.

(7) To prevent the landing of any steamboat or other water craft navigating the Ohio River or its tributaries in the State, or other waters of the State, or bordering streams, when believed infected with contagious or infectious disease.

(8) To stop any railroad train, coach, or vehicle traveling the railroads of the State and disinfect them if infected. Responsible persons willfully refusing to stop such train, coach, or vehicle are guilty of a misdemeanor.

(9) To act through county and municipal health boards when expedient.

(b) Quarantine powers and duties of local boards of health:

(1) To have like power to that of State board to declare quarantine.

(2) To be subsidiary to the State board.

(3) To employ guards at the expense of localities.

(4) To make written report to State board of health as soon as they establish quarantine.

(5) To act in the place of the State board when necessary.

(6) To certify, in certain quarantine emergencies, to the county court or corporate authorities actual and necessary expenditures.

(7) It shall be a misdemeanor, punishable by a fine of not less than \$25 nor more than \$100 for each offense, in the case of persons who fail or refuse to comply with the quarantine orders of such board, and of every person summoned as guard who shall without lawful excuse fail or refuse to obey.

There is no specific act granting authority to the State board of health to exclude children suffering from communicable disease from schools as a quarantine measure. However, the State board has sufficient authority to make regulations with respect to contagious and infectious diseases, and suitable regulations should be promulgated forthwith.

There are, however, two provisions of the law making mandatory requirements for such exclusion, but the relation of the State board of health thereto is very indirect, if any exists. These provisions will be referred to later under the caption: "Vaccination" and "Medical inspection of schools."

The care and maintenance of poor and indigent persons and families in quarantine is a serious tax on county funds in time of widespread epidemic. As a rule, counties which can ill afford such expense are the ones, by the very nature of things, that have the greatest number of people to be cared for in this emergency. Furthermore, exorbitant bills for supplies and services furnished poor and indigent families and persons so quarantined have been rendered in this and other States, which in the aggregate, in widespread epidemics, reach an enormous total.

In other instances local boards of health may make necessary expenditures, in time of emergency, and are directed by the law to certify the same to the county court, "and the whole or as much thereof as the said court may deem right and proper shall be paid out of the county treasury." Such procedure certainly does not lend much encouragement to local boards of health to take the initiative in times of stress. This section of the law should be revised in such manner as to protect the person quarantined, the county, and the local health authorities. While it is not possible to create honesty by legislation, nevertheless much can be done to secure reasonable charges. In many counties of this State the overseer of the poor may be more than a day's journey from persons in quarantine in need of county assistance. The law should be amended so as to give the local health officer authority to provide necessary supplies until relieved of such duty by the overseer of the poor or other authority; and to require that all bills rendered for such services and supplies shall include a certificate, under oath, that the charges therein are reasonable and just and that all bills for the necessities mentioned shall be indorsed by the local health officer.

*Disinfection.*—The West Virginia statutes provide specifically for disinfection for the control of communicable diseases in three instances, to wit, infected railroad train, coach, or vehicle within the limits of the State; persons desiring to enter another county within three months of an attack of smallpox; and the room or bed in a hotel which has been occupied by any person known to have had an infectious, contagious, or communicable disease at the time of such occupancy, the disinfection to be carried out according to methods prescribed by the State board of health. The law does not specifically state under whose immediate supervision disinfection of persons for smallpox shall be done, but the inference is plain, owing to their general quarantine powers, that it is the duty of the local health authorities, acting for the State board of health.

No mention whatsoever is made in the health laws of the State of one of the most important of all practical measures for the safeguarding of the public health, at least in West Virginia, and that is, the thorough disinfection of the excreta, bedclothing, and wash

water of persons suffering with typhoid fever. Until the absolute importance of destroying the bacilli at their source, that is to say, as they are discharged from the human body, is universally recognized, or, what is more to the point, until this is universally practiced by carrying out a uniform, routine method of disinfection to be prescribed by the State board of health, the prevention of the spread of typhoid fever within this State and to adjoining States is impossible. The thorough disinfection of the stools, urine, sputum, vomitus, wash water, and bedclothing of sporadic cases of typhoid fever can best be secured by the promulgation of regulations by the State board of health, for which there is already broad general authority, specifying uniform methods for the disinfection of such infected materials and fixing the responsibility for the routine practice. If necessary, a severe penalty clause should be enacted into law to enforce compliance with the provisions of the regulations. The responsibility for carrying out the disinfection in the manner prescribed by the regulation of the State board of health rests primarily with the attending physician, and it should be so fixed. The penalty for willful failure to carry out the provisions of the regulations should not be less than that provided for other criminal malpractice. In the time of epidemic, however, this disinfection and other methods of control should be under the direct supervision of the proper health agency.

*Inspection.*—The State board has conferred upon it the power to enter into any town, city, or corporation, factory, railroad train, steamboat, or any place whatsoever within the limits of the State to investigate sanitary and hygienic conditions. This section of the act would appear certainly to give authority for investigations of the presence of cases of contagious and infectious diseases, and entry on private property for this purpose.

The State board of health is directed by law to make rules and regulations not inconsistent with the law such as in their judgment are necessary to carry out the intent of the act, which is primarily devised for the prevention and correction of insanitary conditions which may injuriously affect the health of the traveling public, and incidentally the control of communicable diseases. This act will be discussed later under proper caption.

*Vaccination.*—The West Virginia statutes provide for restricted compulsory vaccination, make vaccination of school children a condition of school attendance, and provide for the gratuitous distribution of vaccine to local health officers for use among the poor and indigent.

The provisions of the law relating to vaccination are as follows:

(1) The overseer of any district may furnish antitoxin to, or cause to be vaccinated with proper vaccine matter, any person in such district who is unable to pay for the same.

(2) The county court of any county in the State, upon petition of 100 voters of the county, shall direct and have enforced upon any party or parties compulsory vaccination or quarantine, in case of smallpox epidemic, in any city, town, or village of the county.

(3) No child or person residing in a locality in which an epidemic is prevailing shall be admitted to or received into any of the public schools in any city, town, village, or county who can not produce a certificate or satisfactory proof showing a successful vaccination.

(4) The State board of health is directed to keep vaccine lymph and distribute, free of charge, the same to county and municipal health officers, to be used for the benefit of the poor and indigent, and in other cases where they may deem it urgently necessary to check contagion.

(5) The county court may appoint competent physicians in any city, town, village, or county, and fix their compensation not to exceed 25 cents for each successful vaccination, who shall provide themselves with good and reliable vaccine virus with which to vaccinate free of charge when directed by the county court, and issue certificate of successful vaccination.

The value of universal vaccination in preventing the spread of smallpox, and as a measure for its eradication, has been long recognized and well attested. Vaccination, when properly practiced, will do away with the necessity for enforced quarantine of persons exposed to smallpox. The right to enforce this valuable protective measure should rest with the State and local public-health authorities and not be left to the direction of the county court upon the petition of 100 more or less irresponsible persons of the county, in which there is a supposedly infected locality, as is the case under the present law. The right also to determine and declare the epidemicity of a disease and to provide and enforce measures against it for the protection of the public health should be reposed in State or local health organizations composed of men trained in public-health work.

The right of State legislatures to enact statutes making vaccination compulsory has been definitely settled by decision of the Supreme Court of the United States. It has also been maintained in numerous court decisions that State legislatures have power to authorize vaccination by local authorities. Nevertheless, the sole responsibility of the State board of health of West Virginia, with respect to vaccination under existing statutes, is to provide vaccine lymph—a responsibility equally shared by overseers of the poor.

West Virginia has experienced repeated outbreaks of smallpox, with accompanying disturbance of business and economic loss. At this writing the disease is extensively prevalent in certain counties of the State. It is evident that the provisions for and methods of vaccination now sanctioned by law have failed to secure the desired results. Specific authority with fixed responsibility must be granted the State board of health by the legislature, before vaccination can be satisfactorily and successfully employed in the State for the eradication of smallpox.

*Abolition of the common drinking cup.*—The provision of the common drinking cup is prohibited by law in all public places, upon all railroad trains and boats conveying passengers, in all public buildings of every description, and at all public drinking springs and fountains within the State.

The common drinking cup has long been considered a source of communication of certain transmissible diseases. Microscopic examinations of pieces of a drinking glass in common use have revealed the presence thereon of numerous bacteria and cells from the mouths and throats of persons who have used the same. The prohibition of the common use of such vessels is therefore well founded, and the provision of the law should be rigidly observed and enforced.

*Regulation requirements of the State board of health—*

Common carriers, hotels, boarding houses, restaurants, schools, public buildings, clubs, theaters, factories, stores, and all other places where people eat and drink or congregate shall not provide any drinking cup, glass, or other vessel for common use in drinking: *Provided*, That this regulation shall not be held to preclude the use of drinking cups, glasses, or vessels which are thoroughly cleaned, by washing in boiling water after use by each individual, nor shall it be held to preclude the use of any sanitary devices for common use such as the bubbling fountain for schools and cups made of paper or other material intended for individual use.

*Penalty.*—Failure to observe the provisions of the act or the rules and regulations of the State board of health relative to the use of the common drinking cup is a misdemeanor, punishable by a fine of not less than \$10 nor more than \$50 for each offense.

#### HYGIENIC LABORATORY.

The importance of a State laboratory as an adjunct to a State public-health administration in safeguarding the public health can not be overestimated. It is by laboratory methods only that the diagnosis is quickly and surely made in the case of persons suffering from many of the communicable diseases. The early diagnosis of such diseases enables the health authorities to determine their prevalence and adopt timely measures for their control or suppression. It is only by laboratory methods that unknown sources of infection are revealed through the examinations and discovery of the so-called healthy "carriers" of disease-producing organisms and of contaminated food and water supplies.

By the act of 1913, chapter 24, section 16, the State board of health is empowered to maintain a laboratory and to employ the necessary chemists, bacteriologist, and assistants. No specific appropriation, however, was made for the purpose of carrying out this provision of the law.

Shortly after the passage of this act, however, a conference was held by the governor with a committee of the State board of health, State board of control, and the authorities of the State university,

at which it was decided to establish the hygienic laboratory at Morgantown in connection with the State university. Under an agreement entered into with the State board of health the university places at the disposal of the State health authorities the university laboratory, its equipment, and the restricted services of its chemist and bacteriologist. The State board of health obligates itself to pay the salaries of an assistant bacteriologist and an assistant chemist.

The association of the hygienic laboratory of the State board of health with the State university would appear to be advantageous in West Virginia, since it provides laboratory facilities where there would otherwise be none. In order to be effective and accomplish desired results, however, the laboratory should have more space than is furnished by the present restricted quarters. Increasing demands are being made on the laboratory for the examination of pathological secretions, excretions, and tissues. Furthermore, the examinations of suspected, existing water supplies now being made and those of proposed public water supplies call for larger facilities and more assistants than are at present available. Aside from its value as an adjunct to the public health administration, the hygienic laboratory should receive liberal support from the State, commensurate with its importance as a part of the State educational system.

There is absolute necessity also for the establishment of inexpensive branch laboratories at several convenient points in the State, to be under the control and supervision of the State hygienic laboratory. These branch laboratories would be charged with the distribution of serum and vaccines and with the routine examination of the clinical material submitted by attending physicians for the early diagnosis of diphtheria and similar communicable and infectious diseases. It is highly important that the State health administration be empowered by specific legislation to extend the field of usefulness of the hygienic laboratory along the lines indicated.

#### THE TUBERCULOSIS SANITARIUM.

The West Virginia Tuberculosis Sanitarium, located at Terra Alta, Preston County, was established by an act of the legislature in 1911 and placed under the management of the State board of control. The law directs that the immediate head of the institution shall be a physician, legally qualified, and with not less than six years' experience in the practice of medicine, who shall be appointed by the governor, with the advice and consent of the senate.

*Requirements for admission.*—Persons eligible for admission to this institution are of two classes, namely: Those unable to pay the expenses of their care and treatment and those who are able to pay and shall pay this charge. The law directs that the reasonable expenses of poor persons admitted at the request of the authorities of



any municipal corporation or county shall be paid by such corporation or county. It further directs that the schedule of rates shall be fixed by the State board of control.

The need of an institution of this character is unquestioned, but the advisability of placing it under the direction and management of the board of control may be doubted. The board of control usually is composed of men of highly specialized executive attainments essential to the successful management of eleemosynary institutions in general. The State tuberculosis sanitarium, however, is something more than a refuge for the poor and indigent suffering from tuberculosis. It could and should be made an effective instrument, under the control of the State public-health authorities, for the treatment and suppression of tuberculosis.

It is variously estimated that in the United States tuberculosis is the cause of one-tenth to one-seventh of the deaths in any one year from all causes. It is the prime duty of the State, therefore, to adopt the most effective measures for the control of this disease so universally prevalent and so frequently a cause of destitution and death. One of these measures would be the investment of the State board of health with the control of the State tuberculosis sanitarium and its utilization by the board, not only for the treatment of tuberculosis, but for the education of the public in self-protection against this disease.

It is quite generally accepted that of all measures for the suppression of tuberculosis the control of the active, expectorating cases of the disease gives greatest promise of success. The segregation of such cases in institutions especially devoted to their care and treatment not only removes to a safe place possible sources of individual and community infection, but exerts an educational influence on communities at large with respect to the nature of the disease and the necessary precautions to be observed to prevent the infection of others. Furthermore, patients returning home from such an institution can be made active exponents of the principles of prevention, and thus exercise an ever-widening influence for community betterment.

The legislature appropriated in 1913 the sum of \$9,900 for the use of the West Virginia Antituberculosis League for an educational propaganda against tuberculosis. Of this sum it was directed that \$2,500 should be spent for this purpose in 1913 and \$3,700 each during the years 1914 and 1915. The expenditures of future appropriations for this purpose, however, should devolve on the State health administration, so that the information which may be secured regarding the presence of tuberculosis in the State during the course of such propaganda should become first-hand property of the State health authorities, whose duty it is to control communicable diseases within

the State, and to gather information with respect to them for diffusion among the people.

Moreover, an appropriation made in this manner is an illustration of the necessity for the creation of a division of preventable diseases in the State health organization, to be under the charge of a director, a part of whose duties would be to collect information with respect to the nature and prevention of communicable diseases.

### REGULATION OF THE PRACTICE OF MEDICINE.

Since its establishment in 1881, the State board of health has been largely concerned with the regulation of the practice of medicine and surgery within the State, almost to the exclusion of other duties more directly related to the protection of the public health. It is due to the present board, however, to say that this condition has been brought about gradually, and that it is not caused by lack of appreciation by the board of the importance of its duties as to sanitation, or to an unwillingness to discharge such obligations. The State board of health has not in past years been provided with sufficient funds or the necessary forces with which effectively to undertake the task of State sanitation. The State board has been compelled, therefore, to limit its activities, and, in its discretion, has utilized the small annual appropriations of \$1,000 to \$2,500 in an effort to raise the standard of medical and surgical efficiency within the State.

The provisions of the law with respect to the practice of medicine and surgery are as follows:

(a) Persons entitled to practice medicine and surgery within the State:

(1) All persons legally entitled to practice medicine in the State at the time of the passage of the act.

(2) All graduates of reputable medical colleges recognized as such by the State board, irrespective of any particular school or theory of medicine, who shall have passed an examination before said board and received a certificate therefrom.

(3) All persons whose certificate of license to practice medicine is accepted by a majority of the board when said certificate has been legally granted by the board of registration or examinations or licensing board of any other State, Territory, or any foreign country whose standard of qualifications is equivalent to that of the State, and provided such States, Territories, or foreign countries accord like privilege to medical licentiates of West Virginia.

(4) All physicians living in other States and duly qualified to practice medicine therein, who shall be called into consultation into the State by a physician legally entitled to practice medicine within the State.

(5) Commissioned officers of the United States Army, Navy, and Marine Hospital Service (Public Health Service) when in the actual discharge of their duties as commissioned officers.

(6) All females practicing midwifery.

(7) Osteopathic physicians, graduates of any recognized, reputable school of osteopathy, who were practicing in the State at the time of the passage of this act.

(b) Examinations by the State board of health:

(1) The number of examinations shall be not less than three during each year, and at such other times as a majority of the board may deem proper.

(2) The place of the examinations shall be most convenient to those presenting themselves for examinations, or to the State board. Due notice shall be given of the time and place of such examinations by publication in at least three newspapers of general circulation in the State.

(3) The professional examinations shall be written and oral.

(4) The questions submitted shall cover all the essential branches of the sciences of medicine and surgery, and shall be a thorough and decisive test of the knowledge and ability of the applicants.

(c) Certificates of license:

(1) Certificates of license shall be issued by the president and secretary of the State board of health to all who successfully pass the required examinations and to all those whose certificates the board of health, or a majority of them, shall accept in lieu of an examination through reciprocity, except that in all certificates issued to applicants who adhere to the osteopathic school it shall appear that it is for the practice of osteopathy.

(2) Said certificates, when duly recorded by the secretary of the State board of health and indorsed to that effect, shall be deemed licenses to practice medicine, surgery, and osteopathy in all their branches in the State.

(3) The State board of health may, after due notice and trial, subject to appeal to the circuit court of the county, refuse certificates to individuals guilty of malpractice and of dishonorable conduct, and may revoke certificates for like causes.

(d) Examination fees:

A fee of \$10 is required of every person presenting himself for examination. Such fee is not returned, whether a certificate be refused or not.

(e) Penalties:

(1) It shall be a misdemeanor, punishable by a fine for every offense of not less than \$50 nor more than \$500 or imprisonment in the county jail not less than 1 month nor more than 12 months, or by both such fine and imprisonment, at the discretion of the court, if any person shall practice or attempt to practice medicine, surgery, or obstetrics in the State without having complied with the provisions of the law.

(2) Any person who shall file or attempt to file as his own the diploma or certificate of another or a false or forged affidavit of his identity, or willfully swear falsely to questions propounded during his examination or to any affidavit required to be made or filed by him, shall, upon conviction, be confined in the penitentiary not less than 1 nor more than 3 years, or imprisoned in the county jail not less than 6 nor more than 12 months, and fined not less than \$100 nor more than \$500, at the discretion of the court.

(f) Itinerant physicians and itinerant vendors of drugs:

(1) *Definition.*—Any person who shall travel from place to place and by writing, printing, or otherwise publicly profess to cure or treat diseases, injuries, or deformities shall be held and deemed to be an itinerant physician.

(2) *Requirements.*—Any itinerant physician desiring to practice medicine in this State, or any itinerant vendor of any drug, nostrum, ointment, or appliance of any kind, intended for the treatment of disease or injuries, or who shall by writing or printing or in any other method publicly profess to cure or treat diseases, injuries, or deformities by any drug, nostrum, manipulation, or other expedient shall, before doing so,

pay to the sheriff of every county in which he desires to practice a special tax of \$50 for each month or fraction of a month he shall so practice in such county, and take his receipt in duplicate.

(3) *Filing and indorsement of tax receipts.*—Said special tax receipts shall be presented to the clerk of the county court, one of which shall be filed with him, and the duplicate, indorsed by the clerk to the effect that such receipt has been so filed, shall be retained by such itinerant physician or vendor.

(4) *Penalty.*—It shall be a misdemeanor, punishable by a fine not less than \$100 nor more than \$500, for any such physician or vendor of patent medicines to practice or attempt to practice without having paid such tax, filed the receipt, and obtained the indorsement as provided, or to practice or attempt to practice for a longer time than that for which he has paid such tax.

It is bad practice to burden the State board of health with the duty of the examination of applicants for license to practice medicine and surgery. As now constituted, the State board is too cumbersome for this duty. These examinations could be made more effectively and expeditiously by a board with smaller membership than at present, charged with no duty other than to conduct such examinations.

Under the present system the time of the State board, which could with profit be devoted to consideration of measures of sanitation, is now occupied largely with the enforcement of the medical-practice act. It seems desirable that these two duties should be kept separate. To this end separate boards, each composed of no more than six members, should be formed, the one to be concerned with the protection of the public health from the standpoint of sanitation and prevention and the other with the indirect protection afforded through the regulation of the practice of medicine. It does not necessarily follow that a good sanitarian will also be a good examiner of applicants for license to practice medicine, or vice versa. The formation of separate boards would tend to insure the appointment of men best qualified for such specialized duty.

Members of the examining board render highly specialized services to the State, and often at considerable financial loss to themselves. The sum of \$4 per diem and actual expenses while in the discharge of official duties is inadequate. The per diem allowance should be increased to not less than \$10.

With respect to itinerant physicians and itinerant vendors of medicine, the State law is anomalous. The law prescribes definite qualifications of those who shall regularly practice medicine within the State and devises means by which their fitness to do so shall be determined. In the case of itinerant physicians and vendors, however, no such qualifications are required, and no supervision of their fitness is demanded, the sole requirement being the payment of a special tax. It is hardly necessary to mention the serious harmful effects of such practice and the irreparable injury such irresponsible persons may do. The imposition of a high tax does

not prevent this practice, but on the other hand does incite such vendors and irregular practitioners to dispense the cheapest grades of nostrums and patent medicines to the further detriment of the ignorant sick.

### VITAL STATISTICS.

Statistics relating to the life histories of communities, States, and nations, "which have to do with the origin, continuation, and termination of the lives of the inhabitants," form the foundation of public-health administration. The uses of the registration of sickness, marriages, births, and deaths have been set forth in a public-health service publication, and are herein briefly summarized as follows:

#### (a) Morbidity reports:

(1) In the case of communicable diseases they show points of infection from which disease may spread to others, and make it possible to take necessary precautions to protect the family and associates of the sick, and the community at large.

(2) In certain diseases they make it possible to see that the sick receive proper attention and treatment, as in diphtheria to save life, and in eye infections in the new born to save sight.

(3) In diseases due to occupation, such reports show the location of conditions which are causing illness or injury, and make possible the correction of faulty conditions for the protection of others from similar disease or injuries.

(4) In diseases of unknown origin, such reports show the geographic distribution, the varying prevalence and conditions favorable to the occurrence of such diseases—information of potential value in attempts to ascertain their causes and means of spread.

(5) They show the need of sanitary measures to control and check certain diseases, and the efficiency of such measures when put into operation.

(6) Morbidity reports when recorded over a period of time and properly compiled become a record of the past occurrence of disease. They show the relative prevalence of disease from year to year and under varying conditions. They show the effect of public-health measures and of sanitary works. They give a history of diseases not obtainable in their absence.

#### (b) Registration of marriages:

(1) To protect the home and family.

(2) To furnish evidence of the legitimacy of children and the dower rights of women.

#### (c) Registration of births:

(1) *Legal record.*—It establishes the date of birth and the child's parentage and legitimacy. It may be required to establish the child's age for attendance at public schools; for permission to work in certain States which regulate child labor; to enable marriages to take place without the parent's permission; to show whether a girl has reached the age of consent; to establish age in connection with pensions, military and jury duty, and voting, and in connection with the bequeathing and inheritance of property.

(2) *Public health administration.*—It gives the location of the babies of the State and makes possible their protection by public-health measures.

(d) Death registration:

(1) In preventing and detecting crime through the restrictions placed upon the disposal of dead bodies.

(2) As evidence in the inheritance of property and in the settlement of life insurance contracts and policies.

(3) To show the rate of change in population produced by deaths; the average duration of life; the relative frequency with which particular causes produce death; and, by comparison with birth statistics, giving useful information regarding population increase or decrease.

Practically all such important and useful information is lost to the people of West Virginia because it is not collected in that State. The provisions of the law with respect to the registration of marriages, births, and deaths occurring in the State are as follows:

(a) Powers and duties of the State board of health:

(1) To have supervision of the State system of registration of marriages, births, and deaths.

(2) To make up forms and recommend legislation deemed necessary for the thorough registration of vital and mortuary statistics throughout the State.

(b) Duties of the secretary of the State board of health:

(1) To be registrar of vital statistics.

(2) To publish a report of the vital statistics of the State, along with his report as secretary of the State board of health.

(3) To furnish the forms prepared by the State board of health to the clerks of the county courts.

(c) Duty of physicians and accoucheurs:

To register their names and post-office addresses with the clerk of the county court wherein they reside and, under a penalty of \$10, to report to the clerk of the county court, within 30 days from the occurrence, all births and deaths which may come under their supervision, with a certificate of the cause of death and such correlated facts as the board may require.

(d) Duty of parent, nearest of kin, or resident householder:

When any birth or death shall take place, in the absence of a physician or accoucheur, the same shall be reported by the parent or, if none, by the nearest of kin not a minor or, if none, by the resident householder where the birth or death occurred, in the manner and under the penalty and provisions applicable to physicians and accoucheurs.

(e) Duty of coroners and undertakers:

Coroners and undertakers are required to report all cases of death which may come under their supervision in the same manner and under like penalty and provisions as are applicable to physicians and accoucheurs.

(f) Duty of ministers of the gospel:

All ministers of the gospel are required to report to the clerk of their county courts, under a penalty of \$10, all marriages celebrated by them.

(g) Duty of the county court clerks:

(1) To keep separate books for the registration of the names and post-office addresses of physicians and accoucheurs, for marriages, births, and deaths.

(2) To enter upon record a full abstract of the contents of reports of births and deaths in the register of births and deaths, setting forth in convenient tabular form all the facts shown by said reports.

(3) To make and furnish, on or before the 1st day of February in every year, to the assessor of his county, a copy of the indexes made by him of the marriages, births, and deaths which took place during the year which ended with the 31st day of December previous.

(4) To enter upon his appropriate register for the preceding year a full abstract of the contents made by the assessor, and make the proper corrections in his tabular statements and alphabetical indexes.

(5) To render a full and complete report of all marriages, births, and deaths to the registrar of vital statistics, annually on the 1st day of July, and oftener if required.

(6) Any county court clerk failing to perform such required duty is subject to a fine of not less than \$100 for every such failure. The clerk of the county court receives 5 cents, paid by the county, for each birth, death, and marriage reported by him.

#### (h) Duty of assessors:

To make inquiry of all persons assessed by him, and to ascertain whether any marriages, births, and deaths took place within the county for that year which do not appear in the names furnished him by the clerk of the county court.

*Notification of diseases.*—The law of West Virginia makes but limited provision for the notification of diseases, without which successful public-health administration is impossible. There are no provisions of the law which require the reporting of occupational diseases and others classed as preventable. The law is concerned only with the so-called contagious and infectious diseases. Its provisions relating thereto are as follows:

(1) *Duty of county health officers.*—County health officers are required to make a full report to the State board of health every three months, giving the character of all epidemic, endemic, infectious, or contagious diseases, stating the number of cases reported, character of infection, action taken by the county board to arrest the infections, and the results.

(2) *Duty of practicing physicians.*—It is required of every practicing physician to report to the county health officer all cases of infectious or contagious disease that may arise or come under his treatment.

The act of 1913 amending and reenacting certain sections of the State health laws leaves in doubt the exact duties of municipal health officers with respect to the notification of diseases. Unless responsibility be definitely fixed and the requirements of the law be made clear there is room for evasion and excuse for the neglect of this duty which militates strongly against the success of a system devised for a specific purpose. The law in this respect should be made plain.

The State board of health, in an effort to secure reliable statistical information regarding the prevalence of certain diseases within the State, has issued the following notification card to county health officers for distribution to all practicing physicians within their respective jurisdictions:

Reportable diseases.	Report of transmissible diseases.
Anthrax.	....., W. Va.....191....
Cerebrospinal meningitis (epidemic).	Name of patient.....
Chicken-pox.	Address.....
<i>Cholera, Asiatic.</i>	Age..... Sex..... Color.....
<i>Diphtheria, croup, membranous.</i>	School attended..... Social condition.....
Erysipelas.	Disease..... Dairyman.....
Glanders.	Occupation..... Sanitary condition.....
Hookworm disease.	
Hydrophobia.	
Leprosy.	
<i>Measles.</i>	..... M. D.
Measles, German.	..... Attending Physician.
Pellagra.	
Plague (bubonic).	
<i>Poliomyelitis.</i>	
Scarlet fever, scarlatina, scarlet rash.	
<i>Smallpox.</i>	
Trachoma.	
Tuberculosis (specify form).	
Typhoid fever.	
Whooping cough.	
<i>Yellow fever.</i>	
Diseases in italics are quarantinable.	It is important that all cases of contagious disease be reported promptly to the county health officer. Use the telephone in urgent cases, sending a card later. Exercise every sanitary precaution until the directions of the health officer are received.

But few physicians supply the required information. Being practically always a competitor in practice, the county health officer is not in a favorable position to demand the required information of negligent fellow practitioners. In consequence the information now secured by this method is too meager to be of value for public-health administrative purposes.

The present system of registration of marriages, births, and deaths occurring in the State, and the method of securing the notification of sickness do not meet with success. For example, there were reported in the State of West Virginia in the year 1910, 9,398 deaths. The population of the State in 1910, as given in the United States census report, was 1,221,119. Applying the general death rate in the registration area of the United States for that year of 15.9 per 1,000 to this population, there should have occurred in the State 19,415 deaths from all causes in that year. In other words, 10,117 or more than one-half of the deaths which occurred in West Virginia during 1910 were not recorded. Furthermore, of the 9,398 recorded deaths, 5,188 were classed as due to miscellaneous or unknown causes. Such records are valueless as a source of statistical information.

The law is not sufficiently comprehensive with regard to notification of diseases. Not only should the system now in use for securing reports of sickness be reorganized, but the provisions of the law should be extended to embrace, in addition to contagious and infectious diseases, occupational diseases, and in fact all preventable diseases.

Uniform marriage, birth, and death statistics and uniform morbidity reports are of value to the Nation as well as to the State.



The enactment by the legislature of a model law for morbidity reports, drafted in accordance with the model law adopted by the eleventh annual conference of State and Territorial health authorities with the United States Public Health Service, would do much toward securing uniform results. A like necessity is apparent in the case of marriage, birth, and death reports. Such a law should be as nearly uniform as possible in all the States, and drafted to secure all the information desired by the United States Census Bureau.

Furthermore, a division of vital statistics should be created in the State department of health, and local registrars, paid by fees, should be appointed throughout the State to aid and assist, under the supervision of the commissioner of health, in the collection and preservation of such records.

Moreover, a fine should be imposed on all physicians who refuse or neglect to make the required reports of cases of sickness to the State health authorities.

#### **POLLUTION OF STREAMS AND OTHER SOURCES OF WATER SUPPLIES.**

From a public health standpoint it is unfortunate that the people at large have such a poor conception of the rôle of bacterial life in the causation of disease. To this day even, stream pollution, to the the average mind, means some gross change in the color, taste, or odor of the water. The presence of dead fish in a stream, due to mine drainage or industrial waste products, excites gravest apprehension while the dilute sewage of a town a few miles upstream, teeming with countless bacteria, is swallowed without apprehension.

The State board of health has not been unmindful of the potential dangers of polluted water supplies. The first president of the State board of health, as far back as 1884, thus characterized the situation in West Virginia:

River pollution from sewage and other supplies of refuse and corruption in towns and cities has assumed such fearful proportions that the question presses itself upon wise men and sanitarians.

Existing laws bearing on stream pollution are not sufficiently comprehensive, and the responsibility for their enforcement rests in more than one department of the State administration. The following are the provisions of the law so far enacted:

(1) The governor is directed to take such action as he may deem necessary to prevent the pollution of the New and Great Kanawha Rivers by the actions of certain persons, companies, or corporations. The sum of \$1,500 was appropriated for this purpose.

(2) It is unlawful for any person, firm, or corporation to throw in or allow to empty into any stream or water course in the State, sawdust or any other matter deleterious to the propagation of fish. To do so is a misdemeanor, punishable by a fine of not less than \$25 nor more than \$100 for each and every offense.

(3) It is a misdemeanor knowingly and willfully to throw or cause to be thrown into any well, cistern, spring, brook, or branch of running water which is used for domestic purposes, any dead animal, carcass, or part thereof, or any putrid or nauseous or offensive substance, punishable by a fine of not less than \$5 nor more than \$100 and, at the discretion of the jury, by confinement in the county jail not exceeding 90 days. Such offenses are, moreover, liable to the party injured in a civil action for damages.

(4) It is unlawful to put the carcass of any dead animal or the offal from any slaughterhouse, butcher's establishment, or packing house, or slops or other refuse from any hotel or tavern, or any spoiled meats or spoiled fish, or any putrid animal substance or the contents of any privy vault upon or into any river, creek, or other stream within the State, or upon the surface of any road, street, alley, city lot, public ground, market space, or common, or on the surface within 100 feet of any public road.

A justice of the peace is given jurisdiction of any offense against the provisions of this act committed within his county.

(5) The public service commission may ascertain the quantity, healthfulness, and quality of the water supplied by all persons, firms, or corporations having authority under any charter or franchise of any city, town, or municipality, county court or tribunal in lieu thereof, and shall have power to order such improvements as will best promote the public interest and preserve the public health.

The provisions of the law thus enumerated, impose no duty on the State board of health, whose proper function is the conservation of the public health. The law obviously contemplates the prevention of gross pollution by industrial wastes for the protection of fish life, and only incidentally for that of man. The law forbids the placing of the contents of a privy vault upon or into any river, creek, or other stream within the State but apparently takes no cognizance of the numbers of privies and sewers which discharge the more dangerous recent excrement directly into such watercourses, potentially and infinitely more dangerous to the public health than the things specifically enumerated in the law. Pollution of streams and other sources of public water supplies is considered from the public-health standpoint largely a contamination by human excrement.

*Special significance of stream pollution in West Virginia.*—By reason of topography the streams of West Virginia are especially exposed to contamination by human excrement. Over two-thirds of the State is a part of the Appalachian Plateau, which has, in the course of time, been broken up into almost numberless mountains and valleys by the erosive action of many streams. The greater part of the population of the State is, therefore, crowded into settlements located in narrow valleys (many of them extremely narrow) along the banks of some swift-flowing river or other stream. It is the rule, rather than the exception, to find the privies of such settlements constructed to overhang such streams or tributaries, while in other cases the slope of the land is such as to favor the washing or draining of the contents of open privies directly into streams.

Furthermore, the extensive mining industry of the State has stimulated the organization and incorporation of numerous small towns which have installed, in many instances, ill-advised sewerage systems.

Likewise, mining camps have been established along the headwaters of nearly every stream within the State to such an extent that the majority of these streams undergo pollution by human excrement from source to mouth.

*Dangers of stream pollution.*—Typhoid fever may be largely a water-borne disease. The active exciting agent of this disease is a microscopic organism found in the bodily discharges of persons sick with, and in the excrement of a certain number of otherwise healthy individuals who have recovered from, an attack of typhoid fever. The organism does not develop outside the human body. When a person becomes sick with typhoid fever it is positive evidence that such individual has swallowed human excrement conveyed to his mouth in his food, water, or by other means. It is obvious, therefore, that families or municipalities using water from a polluted source for domestic purposes are in constant danger of infection, and that the greater the pollution the more widespread is the disease. Moreover, the element of time is a vital factor in the self-purification of the streams which may be the source of public water supplies. A city, therefore, situated a comparatively short distance below an infecting point on a slow-flowing stream, is less liable to infection, all other things being equal, than a city located at much greater distance in the case of a rapid stream. The topography of West Virginia offers ideal physical conditions for the infection of public water supplies. The wide dissemination of such infection is evidenced by the great typhoid prevalence in the State, spreading from town to country and from country to town.

*Prevalence of typhoid fever.*—While no accurate figures showing the prevalence of typhoid fever in the State are in existence, the president of the State board of health, from available data, has estimated the typhoid rate of the State as double that in the registration area of the United States. It is estimated that 7,000 cases of typhoid annually occur in West Virginia, which means an economic loss to the State of \$4,200,000.

The writer has visited most of the counties within the State, and has yet to find a community without cases of typhoid fever. So common is the disease in certain localities that it is spoken of as "the fever." It seems, therefore, that the above estimate may be under rather than above the true figure.

In the course of a sanitary survey of one county of the State by officers of the United States Public Health Service 249 cases of typhoid fever were ascertained to have occurred in the county from April 1 to November 1, 1913. Additional statistics from this county impressively illustrate the value of sanitary measures directed toward the proper disposal of human excrement. During the corresponding period for 1914 but 40 cases of typhoid fever have occurred. Not

only do such measures of sanitation reduce the prevalence of typhoid fever, but they exercise a marked effect in lowering community mortality from other diseases, a fact well noted in many instances following the introduction of an abundant and wholesome water supply.

The prevention of pollution of sources of public water supply is essentially a public health problem. The State health administration should be empowered to exercise general supervision and control of the sanitary condition of the streams and other waters of the State, and authorized to make and enforce rules and regulations to prevent their pollution. The State health organization should be given certain regulative powers over the installation, maintenance, and extension of all sewerage and water systems within the State, and granted the necessary facilities to enforce them. Furthermore, the State health authorities should be authorized to compel the construction of sanitary privies in all places where deemed necessary to protect the public health and to prevent the pollution of sources of public water supplies.

The supervision by the State health authorities over all sources of public water supplies within the State and the enforcement of regulations to prevent their pollution presupposes, however, the creation of a division of sanitary engineering within the State department of health, and the employment of skilled assistants, to be under the supervision of a director.

### FOOD AND DRUGS.

The State of West Virginia has no distinct organization for the enforcement of the laws of the State respecting pure food and drugs. The powers and responsibilities of the State board of health in this respect are shared by other agents of the State.

The general provisions of the law are, in effect, as follows:

(1) To make it unlawful to fraudulently adulterate, for the purpose of sale, anything intended for food or drink, or to knowingly sell or barter anything intended for food or drink which is not what it is represented to be or what it is sold for. Penalty: On conviction, to be confined in jail not more than six months and fined not exceeding \$100.

(2) To make it unlawful knowingly to adulterate or cause to be adulterated any drugs, chemicals, or medicinal preparations, or knowingly to sell any adulterated drugs, chemicals, or medicinal preparations. Infraction of this law is a misdemeanor. Penalty: On conviction, to be fined not exceeding \$100, and in the case of a registered pharmacist or assistant pharmacist, his name to be stricken from the register.

(3) To make it unlawful within the State to manufacture for sale, offer for sale, or sell any drug or article of food which is adulterated within the meaning of the act.

*Definition of "drug" and "food."*—The term "drug," as used in this act, shall include all medicines for internal or external use, antiseptics, disinfectants, and cosmetics. The term "food," as used herein shall include all articles used for food, drink, confectionery, or condiment by man, whether simple, mixed, or compound (acts 1907, reg. sess., C. 68).

(a) Powers and duties of the State board of health with respect to unwholesome provisions or drugs offered for sale:

(1) To take or cause to be taken by its authorized agent a specimen of any food, drink, or drug, sold, or offered for sale, believed to be diseased, corrupted, unwholesome, or adulterated, and test and analyze the same.

(2) Positive results of such tests or analysis is prima facie evidence of such fact in prosecutions under the act.

(b) Power and duties of prosecuting attorney:

The prosecuting attorney of each county within the State is empowered and directed under the act to enter, during business hours, any creamery, factory, store, salesroom, drug store, or laboratory, or any place where he has reason to believe food, drink, or drugs are made, prepared, or sold, or offered for sale, and to open the containers of any articles of food, drink, or drugs, and examine or cause to be examined the contents thereof.

(c) Duty of hotel inspectors:

Hotel inspectors are directed to assist in the enforcement of the laws of the State respecting pure food, so far as they relate to hotels and restaurants.

(d) Duties of the chemist of the State agricultural college:

It is the duty of the chemist of the State agricultural college to analyze any article of food, drink, or drug sent him by the prosecuting attorney of any county, and certify the result of said analysis to said prosecuting attorney.

(e) Penalties for violation of the act making it unlawful to manufacture and sell adulterated food or drugs:

Whoever, by himself or his agent, violates any of the provisions of this act shall upon conviction be punished by a fine not less than \$50 nor more than \$100, or by imprisonment in the county jail not less than 20 nor more than 60 days, or both for each subsequent offense.

On the whole, the State has sufficient law to regulate and prevent the sale of adulterated food, drink, and drugs, and of diseased or unwholesome foodstuffs. The law does not provide, however, effective means of enforcement. It is a true saying that what is everybody's business is nobody's business. Powers and duties are so widely distributed under this act that little has been done by any one in the way of its enforcement. Certainly no great benefit is to be derived, and no marked results are likely to follow the present method of its administration. The necessity for a definite administrative authority with fixed responsibility is apparent. In order to make this law effective, there should be created under the charge of a director a division of food and drugs within the State health organization to administer the law under the supervision of the board of health.

(f) *Control of the milk supply.*—The universal use of milk and milk products, and the fact that it is the chief substitute for mother's milk in the earlier months of infancy, make it highly important to surround its production and sale with restrictions necessary to safe-

guard the public health. The present laws should be amended to grant the State board of health full authority to make and promulgate regulations to provide clean and safe milk and fresh milk products, which shall be the minimum requirements to be enforced by local health authorities throughout the State. Under present conditions each municipality or local board of health is a rule unto itself in the adoption of standards of milk impurity.

### HOTEL INSPECTION.

The act of February 21, 1913, creating the office of hotel inspector and providing for the inspection of hotels and restaurants, directs the State board of health to make such rules and regulations not inconsistent with law as, in their judgment, are necessary to carry out the intent of the act. Such rules and regulations to be effective must receive the approval of the attorney general and the governor of the State.

#### *General health provisions of the law—*

(1) For every hotel and restaurant in the State to be properly lighted by day and by night, to be plumbed and ventilated and conducted in every department with strict regard for the health, comfort, and safety of the guests.

(2) For every hotel in municipalities or villages where a system of waterworks and sewerage is maintained for public use, to be equipped with suitable water-closets for the accommodation of guests within six months after the passage of the act. All lavatories, bathtubs, sinks, drains, closets, and urinals to have proper connections and flushing arrangements.

(3) For the proper construction and protection against filth and flies of hotel privies of hotels in cities, towns, and villages which have no system of waterworks.

(4) For all hotels within the State to provide a public wash room convenient and of easy access to guests, and to provide for each registered guest clean individual towels of stated length in each bedroom and public wash room: *Provided, however*, Roller towels may be placed in the main wash rooms for the use of persons other than registered guests of the hotel.

(5) For no person, firm, or corporation engaged in conducting a hotel or restaurant knowingly to have in their employ any person who has an infectious, contagious, or communicable disease.

(6) For the disinfection, by methods prescribed by the State board of health, of every room or bed which has been occupied by any person known to have had an infectious, contagious, or communicable disease at the time of such occupancy before said room shall be occupied by any other person. Penalty: Any person violating the provisions of this section is subject to a fine not exceeding \$300 and to confinement in jail not exceeding six months, or both, at the discretion of the court.

(7) For every hotel to furnish for the use of guests after July 1, 1914, pillow slips and sheets of prescribed size and material, to be washed and ironed after use before being used by another guest.

(8) For all bedding, including mattresses, quilts, blankets, pillows, and all carpets and floor covering used in any hotel in the State to be thoroughly aired, disinfected, and kept clean.

(9) For the fumigation, disinfection, and renovation in every hotel of any room infected with vermin or bedbugs until said vermin or bedbugs are exterminated.

*Penalty for violation.*—It is made a misdemeanor for any person, firm, or corporation to operate a hotel or restaurant in the State, or to let a building to be used for such purposes, without first having complied with the provisions of the act, subject to a fine of \$5 for each day such failure to comply shall continue.

*Enforcement.*—The prosecuting attorney of each county in the State is authorized and required, upon complaint on oath of the hotel inspector, or other person or persons, to prosecute to termination before any court of competent jurisdiction, in the name of the State, a proper action or proceeding against any person or persons violating the provisions of this act.

*Exceptions.*—The provisions of this act do not apply to any hotel or boarding house wherein there are fewer than 10 bed chambers, nor to any hotel or boarding house known as a "summer hotel" which is not open for guests from November 15 to May 15, nor to any hotel where the transient rate is \$1.50 per day or less.

*Regulations of the State board of health governing hotel inspection.*—

(1) All doors, windows, back porches, where same exist, air passages or openings in hotels and restaurants, lunch wagons or lunch counters in this State shall be properly screened from the 1st day of April to the 15th day of November in each year.

(2) All cooked or prepared food on display shall be kept covered at all times by glass or 16-mesh screen covers, or kept in glass or fine screened cases, to prevent contamination by handling or flies.

(3) All garbage or other matter discarded from kitchens shall be kept in metallic garbage cans which shall be kept clean and always effectively covered to prevent flies from getting in the cans.

(4) It shall be the duty of every person or persons conducting a hotel, restaurant, eating house, or lunch wagon, to keep the premises clean and sanitary, and all floors to be scrubbed sufficiently often to keep them in sanitary condition, and they shall exterminate all ants, roaches, and other insects, and keep premises free from same. They shall also keep all food where rats and mice can not get to it.

(5) All water-closets shall be disinfected each week or more frequently if necessary, to prevent obvious odors or effluvia arising therefrom.

(6) Serving tables and all other utensils and machinery used in handling, moving, cutting, chopping, mixing, or serving food are required to be sterilized through daily cleansing by boiling water or steam. It is also required that "the clothing and hands of cooks, stewards, and waiters must be clean and sanitary."

(7) No person, firm, or corporation engaged in conducting a hotel or restaurant shall knowingly have in their employ any person who has an infectious, contagious, or communicable disease.

The intent of this law is excellent, and most of its provisions are in accord with modern ideas of sanitation. It is unfortunate, however, that an exception has been made in the case of hotels having a per diem rate of \$1.50 or less. Persons whose financial condition necessitates the patronage of moderate-rate hotels and boarding houses are as susceptible to disease and equally capable of transmitting infection to others as are individuals in more affluent circumstances; besides there are more of them. The writer, in the

course of a trachoma survey of the State, found it a not infrequent custom for persons in poor circumstances afflicted with this disease to travel to the larger cities of the State for special treatment. No doubt the majority of such persons patronize moderate-rate hotels and boarding houses which by the law mentioned are exempted from State inspection, wherein no precautions are required to be taken to prevent the spread of communicable diseases. The danger of the further spread of trachoma in the State through such channels is great, and steps should be taken to extend the provisions of the hotel-inspection act to all hotels and boarding houses to safeguard the public health.

The law, moreover, permits the placing of roller towels in the main wash rooms of hotels for the use of persons other than registered guests. Health laws do not respect individuals. It is the duty of the State to protect the general public which may use the wash room of a hotel, as well as protect that of individual guests of such hotel. Much health work can be accomplished only by the education of the public. The educational effect of the abolition of the common towel should not be lost by permitting its use in public places for any purpose whatsoever. This provision of the law might well be repealed with advantage to the public.

Responsibility for the enforcement of this law is not definitely fixed. Prosecuting attorneys are required to prosecute upon the sworn complaint of a hotel inspector, or other person or persons, it is true; but it is optional with such persons to make complaint. Hotel inspectors could with advantage be made appointees under the State department of health to enforce the required rules and regulations of said department governing hotel inspectors. Furthermore, regulations issued in conformity with the act mentioned should have the force and effect of law.

#### SCHOOL HYGIENE.

The State board of health has issued no regulations concerning the subject of school hygiene. It is invested with no authority other than to examine into and advise as to the ventilation and warming of schoolhouses. In this respect it has less authority than school trustees of subdistricts who have the following duties under the law:

The trustees are directed to visit every school under their charge within two weeks after the opening, and again within two weeks before the close thereof. During such visits they are directed to inspect the school house and grounds, closets, and other outbuildings to see whether they are kept in good order, whether anything injurious to health is supposed to remain about the house or grounds, and whether the school-house is well ventilated and kept clean and comfortable, and when necessary to provide and promptly apply the proper remedy.



The great importance of well-regulated schoolhouse sanitation is receiving increasing recognition by those in position to judge its effects. The need of proper supervision of schoolhouse construction, equipment, and sanitation is a pressing one in most rural communities, and is indicated from social, educational, economic, and health standpoints. Rural school buildings are usually located and constructed without due regard to the requirements in such buildings with respect to the location of windows and provision for a proper amount of light; the best method of arranging and adjusting seats and desks; the necessary supply of fresh air and moisture; the most effective and economical heating arrangement, and the safe disposal of excreta. The child can not take the best advantage of educational opportunities in poorly lighted, badly ventilated schoolrooms. The educational effect of schoolhouse sanitation upon the minds of growing children will result, in the course of time, in improved community sanitation and the betterment of the general health. It is unfortunate that the responsibility for the regulation of matters so important to community health should rest with men not necessarily appreciative of their necessity and relative importance, and who are, in most instances, without the requisite training or experience. The State board of health should be invested with specific authority to make inspections of all school buildings and grounds within the State at stated periods, and to prescribe and enforce rules and regulations governing the ventilation, warming, natural lighting, and excreta disposal therein.

*Medical inspection of school children.*—The medical inspection of school children in West Virginia is not a duty of either the State or local health authorities. The law directs that the board of education of each independent school district in the State shall, and other boards of education may, appoint one or more practicing physicians in said district to be medical inspectors of schools, to fix their salaries and define their duties.

The duties of medical inspectors of schools are as follows:

- (1) To test each pupil in his school once during each school year for any defect or disability that would prevent the pupil receiving the full benefit of the school work.
- (2) At the request of the superintendent, to examine any pupil for evidence of infectious and contagious disease or any other condition which might prove harmful to other pupils.
- (3) To carefully examine each pupil who has been absent from school for five consecutive days for contagious or infectious disease, except in the case when properly signed and indorsed certificates are presented showing the house from which the pupil comes is free from infectious or contagious disease.
- (4) To notify boards of health and education, in writing, of the presence of cases of contagious and infectious diseases found among school children.
- (5) When requested by the board of education, to conduct investigations, furnish information and advice, and assist to formulate rules of procedure on matters pertaining to the lighting, heating, ventilating, and sanitation of the school building;

the hours of study, recesses, exercises, and other matters pertaining to the health, vitality, and development of the pupils.

(6) To keep an accurate and complete record of each pupil tested and examined in the following form:

Date.....19..

Pupil.....Age.....

Grade.....School.....

Parent or guardian.....

Heart.....

Lungs.....

Eyes.....

Ears.....

Throat.....

Teeth.....

Contagious or infectious disease.....

Skin disease.....

Special note.....

Recommendation.....

(Signed).....M. D.,  
Medical Inspector of.....School.

And when any condition is found which, in his opinion, would prevent the pupil receiving the full benefit of the school work or would be a symptom of infections or contagious disease, notify the parent or guardian and the superintendent of the school attended, using the following form:

....., 19..

The parent or guardian of.....

attending.....School

is hereby notified that examination of this pupil shows abnormal condition of.....

Take the pupil to your family physician for treatment and advice and take this card with you.

....., M. D.,  
Medical Inspector,.....School.

On the reverse side is printed:

I have this day examined.....

of the.....grade,.....School

and find the following condition.....

and have advised as follows.....

(Signed)....., M. D.,  
Physician.

Dated.....

The physician signing will return the card to the pupil, who will return it to the superintendent of the school attended.

When any pupil shall have been absent from school for five consecutive days, statement must be made to the superintendent of the school attended in the following form:

Dated....., 19..

I have this day examined.....

of the.....School,

and find this pupil and the house from which the pupil comes to be free from infectious or contagious disease.

(Signed)....., M. D.

Approved....., M. D.,  
Medical Inspector.....School.

Other provisions of the law relating to school hygiene are:

(1) To exclude from school any pupil with smallpox, chicken-pox, measles, scarlet fever, tuberculosis, diphtheria, influenza, whooping cough, tonsillitis, mumps, scabies, syphilis, and other venereal diseases, trachoma, or any other contagious disease.

(2) For boards of education, at their discretion, to employ a teacher or nurse "to investigate the sanitary conditions of the pupil and home."

(3) To require applicants for teachers' certificates to pass a satisfactory examination in physiology and hygiene.

(4) To require physiology and hygiene to be taught in the free schools, and in connection therewith the nature of alcoholic drinks and narcotics, with special instruction as to their effect upon the human system.

(5) That when it shall be directed by the county court of any county in the State no child or person residing in the locality in which an epidemic is prevailing shall be admitted to or received into any of the public schools.

Boards of education generally have not taken action to comply with the law and establish medical inspections in schools. In many places where such inspections have been instituted, local physicians in active practice have been appointed medical inspectors of schools, who quite naturally regard this important duty simply as a side issue to the general practice of medicine. School medical inspection, to be effective, should be made by men of special qualifications and training, who should devote practically their whole time to such duty. Inasmuch as it is clearly beyond the means of many communities to employ a specially trained medical inspector solely for such duty in schools, these duties and attached salary could be combined with those of local health officer and thus offer sufficient inducement to secure the whole-time services of a trained sanitarian in such dual capacity.

Legislators have paid but scant attention to the important uses for the protection of the public health which can be made of medical school inspections, by State and local health officers, by the discovery of cases of communicable diseases and the detection of points of infection in communities through the employment of school nurses. Medical inspectors are required by law, it is true, to report to the local health officer cases of communicable disease, but more prompt action and better control of infection would result should such discovery be made by the health officer, in the first place, in the capacity of school examiner.

In the course of a survey for trachoma the writer found a marked prevalence of this disease in several of the counties of the State. In 17 schools of the State over 10 per cent of the children were afflicted with this disease. In 4 of these schools more than 20 per cent of the pupils had trachoma, in 2 schools over 30 per cent, over 40 per cent in 3 schools, and 45 per cent in 1 school. The control of trachoma, a communicable disease of the eyes potentially damaging to vision, in the counties represented by these schools is the duty of the State health administration. Such control can best be brought about by the inspection of school children and their education in the principles of sanitation. By like measures, tuberculosis may be controlled in rural communities, cases of unsuspected tuberculosis may

be discovered, sources of infection brought to light, and means adopted to prevent infection of others.

School medical inspections, therefore, can be made a valuable instrument in the hands of health authorities for the protection of the public health, without lessening the value of such measure from the standpoint of education. Under the present system such inspection is of no benefit to the health authorities and of but limited value by reason of failure to comply with the law, except in a small number of localities, to boards of education. The legislature could, with advantage, place the medical inspection of the school children of the State under the supervision of the State health administration and should invest it with full authority to prescribe and enforce regulations governing such inspections.

The law should be amended to provide for the mental examination of school children, and in connection therewith to secure the proper grouping of children into homogeneous classes according to mental rather than physiological ages.

It should be made the duty of medical inspectors of schools to examine teachers suspected of tuberculosis or other communicable diseases. The employment of persons having such diseases to teach in any of the public schools of the State should be prohibited by specific legislative enactment.

It should be made a specific requirement of the law that all applicants for teachers' certificates should be tested for visual acuity, and that no person found to have a degree of myopia (nearsightedness) of more than six diopters should be granted a certificate to teach in any of the public schools of the State.

#### CONTROL OF NUISANCES.

In public-health work it is advisable to make a distinction between public and private nuisances, a distinction recognized by modern law. In the case of private nuisances, affecting the individual only, certain remedies are always available, namely, abatement, a suit for damage, and an injunction.

Public nuisances, on the other hand, are of interest to the State health authorities by reason of their potential damage to the health of whole communities and through these, possibly the inhabitants of other localities. Nuisances, from a public-health viewpoint, are embraced in the general test of all nuisances which is in substance the tendency of the prohibited act, thing, or conduct to debase public morals, to endanger the public health, or to interfere unlawfully with the public convenience. Furthermore, in public-health work, it is not necessary under law for a nuisance to operate to the actual production of sickness before being regarded as such.

The laws of West Virginia make specific mention of certain nuisances which may be regarded as having either direct or indirect bearing on the public health. No specific provision is made by the law, however, by which the State board of health is given authority to investigate and take the necessary action to abate nuisances. The following things and acts which may directly or remotely affect the public health are declared nuisances by the laws of West Virginia: Buildings where liquors are sold contrary to law; deposit of dead animals, slops, refuse, spoiled meats or spoiled fish, or the contents of any privy vault in streams, on roads, and on public grounds; failure to provide certain factories, workshops, and tenement houses with fire escapes; obstruction of watercourses.

Municipal councils are given authority to abate, or cause to be abated, anything which in the opinion of a majority of the whole council shall be a nuisance. In the case of difference of opinion with respect to certain nuisances regarded by local boards of health a menace to the public health, or refusal by municipal councils to cause the abatement of nuisances reported by local health boards, the law provides no quick remedy. The State health administration should be invested with authority to take the necessary action in such cases.

County courts are also given authority to abate or remove nuisances prejudicial to the health of the inhabitants of any part of the county.

The State board of health should be invested by law with full authority to inquire into and investigate all nuisances affecting the public health in any county, city, town, or village in the State, and, in case of failure or neglect of local authorities to do so, to take the necessary steps to restrain, prevent, or abate such nuisances, no matter by whom committed.

Under the present law it is not always possible to secure prompt abatement of nuisances which, in some cases, may be necessary to prevent sickness. It should be provided by law, in the event of noncompliance with an order of State or local health officers to abate a nuisance, that applications for injunctions to restrain, prevent, or abate said nuisances should take precedence over all other cases on the docket.

*Court decisions relating to nuisances.—*

Power may be conferred on boards of health to abate nuisances. (*Waters v. Townsend*, 65 Ark., 613; *Gaines v. Waters*, 64 Ark., 609.)

Such board of health or municipality has abundant powers to declare to be a nuisance and to abate whatever is per se a nuisance at common law, and while such determination may not be final and conclusive, the court should declare it if the uncontradicted evidence establishes a nuisance per se; if not, the case is for jury. (*Commonwealth v. Tost*, 11 Pa. Sup. Ct., 323 (1899).)

Sections 2143-2146 of the Revised Laws of Minnesota, providing for abatement by the State board of health of premises and occupations menacing to public health, are

an exercise of the police power of the State, a sovereign power, for the protection of the public health, comfort, and safety. They are clearly constitutional unless it is an arbitrary and unnecessarily oppressive use of the powers. (*I. L. McMillan Co. v. Minnesota State Board of Health*, 110 Minn., 145.)

#### EXTENSION WORK.

The State Board of Health of West Virginia is directed, by law, to gather information in respect to the public health and kindred subjects for diffusion among the people. The legislature, however, failed to make a specific appropriation for this purpose. The limited funds available for general health expenditures in the State have greatly hampered the State board of health in taking advantage of the provision of the law for this purpose.

The State board of health, however, has taken advantage of this provision to publish a quarterly health bulletin. The object of this publication is educational and is well set forth in an introductory statement in its initial number, as follows:

For the purpose of informing the public as to what the board is doing in the interest of the public health, of publishing information concerning the prevailing diseases, and also from time to time hints as to the preservation of the health of the individual and the community.

Individuals and communities can not be made healthy by law. All laws devised for the protection of the public health to become effective require the intelligent cooperation of the public. Such intelligent cooperation can be secured only through educational means. It is necessary to instruct the public as to the nature of communicable diseases, the manner of their spread, and the rôle of insanitary customs and habits in causing infection before steps can be successfully taken to secure enforcement of measures of sanitation devised for their suppression. Certainly no successful control of typhoid fever and trachoma prevalence in the State can be maintained without such cooperation, to secure which would justify, from an economic standpoint, the expenditure of a sum much in excess of that now allowed by law for all health purposes in the State.

During the summer months of 1914 the State board of health, through a sanitary survey commission, made an intensive study of the miners employed by certain companies in one county of the State, with a view to determine the prevalence of intestinal parasites among them, the danger from such sources by the introduction of foreign labor, and the responsibility of local conditions for the continuance of diseases due to the presence of these parasites.

In the course of this survey a study of the living conditions of miners was made, personal instruction was given concerning habits that are a menace to the community, and lantern lectures were given illustrating the manner of typhoid transmission and that of the most common intestinal parasites.

Detailed mention is made of this survey because it illustrates the value of extension work, the manner in which it may be carried on, and the pressing need of the State board of health for an effective field force.

Mention has been made of appropriation for the use of the State antituberculosis league for the purpose of instructing the public in methods for the suppression of tuberculosis. It is believed future appropriations of the kind should be expended under the direct supervision of the State health authorities as a part of the educational extension work of the State health organization. Estimates for future appropriations for public-health work in the State should take into consideration the great value of this branch of the work and provide liberally for its continuance under the State department of health.

#### **FINES, PENALTIES, AND FORFEITURES.**

The provision of a penalty for noncompliance with the mandates of a given statute gives the enforcing authority an effective weapon with which to secure results. The effectiveness of a law is largely measured by the inclination of those whose duty it is to enforce such law, yet without the provision of a penalty the State board of health would not be in a position to enforce the law, no matter how desirous of so doing.

The statutes of West Virginia prescribe numerous penalties for non-compliance with the provisions of the law relating to the public health, namely:

(1) A penalty of \$10 for failure of accoucheurs and physicians to register their names and post-office addresses with the clerk of the county court wherein they reside.

(2) Making it a misdemeanor knowingly to adulterate or cause to be adulterated any drugs, chemicals, or medicinal preparations, or knowingly to sell such articles, punishable by a fine not exceeding \$100. In the case of a registered pharmacist or an assistant pharmacist, the law directs that his name shall be stricken from the register. Persons adjudged guilty of violating any of the provisions of the food and drugs act are required to pay all necessary costs and expenses incurred in inspecting and analyzing any such adulterated food, drink, and drugs.

(3) Confinement in jail not more than one year and a fine not exceeding \$500 to fraudulently adulterate, for purpose of sale, anything intended for food or drink, or knowingly to sell or barter anything for food or drink which is not what it is represented to be. The law directs that the adulterated or other articles shall be forfeited and destroyed.

(4) Making it a felony, punished by imprisonment, upon conviction, in the State penitentiary not less than 1 nor more than 10 years for each offense, to sell, give away, or otherwise dispense cocaine, alpha or beta eucaine, or any mixture of either, except on the prescription of a licensed physician in good standing, not of intemperate habits or addicted to the use of any drug.

Like penalty is prescribed for any person, except a licensed physician, dentist, or veterinary surgeon, manufacturing pharmacist or chemist, or wholesale or retail pharmacist or druggist, to have in his possession cocaine or alpha or beta eucaine or any mixture of either.

(5) A penalty of \$10 for failure of physicians, accoucheurs, parents, or if none next of kin not a minor, or if none, the resident householder, to report to the clerk of the county court, within 30 days from occurrence, all births and deaths which may come under their supervision.

(6) A penalty of \$10 for failure by coronors and undertakers to report all cases of death which may come under their supervision.

(7) A penalty of \$10 for failure of ministers of the gospel to report marriages celebrated by them.

(8) To fine the clerk of county courts \$100 for every failure to render the required reports of marriage, birth, and death registrations.

(9) To make it a misdemeanor, punishable by a fine of not less than \$10 nor more than \$50, in case of failure of persons, firms, or corporations to observe the provisions of the act prohibiting the use of the common drinking cup in public places or the rules and regulations of the board of health made in relation thereto.

(10) To make it a misdemeanor to deposit dead animals and other proscribed substances in waters used for domestic purposes, and prescribing fine of not less than \$5 nor more than \$100, and, at the discretion of the court, confinement in jail of the county not exceeding 90 days. The law directs that such offender shall be liable to the party injured in a civil action for damages.

(11) To impose a fine of not less than \$5 nor more than \$10 for depositing dead animals, slops, and other proscribed materials in waters, upon the surface of public roads, or public grounds.

(12) To make it a misdemeanor and prescribe a fine of not more than \$100 for failure of practicing physicians to report cases of infectious or contagious diseases that may arise or come under their treatment to county health officers; and of said county health officers to render the required reports of such diseases to the State board of health.

(13) To make any person violating the provisions of the hotel-inspection act requiring the disinfection of rooms occupied by persons with infectious disease subject to a fine not exceeding \$300 and to confinement in jail not exceeding six months, or both, at the discretion of the court.

(14) To make it a misdemeanor for an itinerant physician and vendor of drugs to practice or attempt to practice for a longer time than that for which he has paid a license tax, punishable by a fine of not less than \$100 nor more than \$500.

(15) To make it a misdemeanor for any person to practice or attempt to practice medicine, surgery, or obstetrics in the State without having complied with the provisions of the law, and subject to a fine of not less than \$50 nor more than \$500, or imprisonment in the county jail not less than 1 month nor more than 12 months, or both fine and imprisonment, at the discretion of the court.

(16) To make it punishable by confinement in the penitentiary not less than 1 nor more than 3 years, or imprisonment in the county jail not less than 6 nor more than 12 months, and a fine of not less than \$100 nor more than \$500, at the discretion of the court, for any person to file or attempt to file as his own the diploma or certificate of another, or to file or attempt to file a false or forged affidavit of his identity, or willfully to swear falsely to any question which may be propounded to him on examination, in an attempt to evade the provisions of the law regulating the practice of medicine.

(17) To make marriage within prohibited degrees punishable by confinement in jail not more than six months, or fine not exceeding \$500, or both, at the discretion of the court.

(18) To prescribe a fine of not less than \$50 nor more than \$500, or imprisonment in the county jail not less than 10 nor more than 90 days for violation of the provisions for the ventilation of mines by the operator, agent, or mine foreman.



(19) To make it a misdemeanor to violate the provisions of the law providing for the registration of nurses, punishable by a fine of not more than \$500.

(20) To make it punishable by a fine for each offense to practice optometry within the State without a certificate.

(21) To make the violation of certain provisions of the act to regulate the sale of narcotic drugs a misdemeanor, punished, upon conviction for the first offense, by a fine of not less than \$25 nor more than \$50; for the second offense, not less than \$50 nor more than \$100; and upon conviction for a subsequent offense, a fine of not less than \$100 nor more than \$200, and to be imprisoned in the county jail for not more than six months. The law directs, in the case of a licensed pharmacist, physician, dentist, or veterinary surgeon, his license shall be revoked.

(22) To make it a misdemeanor to refuse to obey the orders and direction of local boards of health in enforcing quarantine, punished by a fine of not less than \$25 nor more than \$100.

(23) To make it a misdemeanor for the person in charge willfully to fail or refuse to stop a railroad train, coach, or vehicle on the demand of boards of health, punished by a fine of not less than \$25 nor more than \$100.

(24) To make it punishable by confinement in jail not more than six months and fine not exceeding \$100, knowingly to sell or expose for sale any diseased, corrupted, or unwholesome drugs or provisions, whether food or drink, without making the same known to the buyer.

(25) To make it a misdemeanor to neglect to connect buildings with sewers when directed by municipal boards of health, punishable by a fine not less than \$5 nor more than \$25 for each day's failure to comply with such notice, after 10 days after such notice is given.

(26) To make it a misdemeanor for any physician to issue a false certificate of vaccination, punishable by a fine not less than \$20 nor more than \$100.

(27) To require a forfeit of \$10 by an assessor of taxes for every failure to procure and to record certain information required of him by law respecting a marriage, birth, or death.

(28) To require a forfeit not less than \$50 nor more than \$300 for every such offense by any person, upon whose information or statement any record or registration may lawfully be made under the law, to give false information as to vital statistics.

Although numerous fines, penalties, and forfeitures may be imposed under the law to secure compliance with its provisions for the protection of the public health, the effect has not been satisfactory in this respect. This is due, no doubt, to the fact that the law, in so many instances, is not sufficiently specific in the designation of the authority under which its provisions are to be enforced.

It should be the duty of the State health authorities to enforce all laws relating to the public health. The State commissioner of health should be required by law to take cognizance of all failures to comply with the provisions of such laws, and should be given full authority to take the steps necessary to secure the imposition of the penalties prescribed for such noncompliance.

#### INDUSTRIAL HYGIENE.

The law does not give the State Board of Health of West Virginia authority to maintain sanitary conditions in industrial plants or to suppress the occurrence of preventable occupational diseases. The

present law, in fact, does not provide for the notification of occupational diseases; therefore, the prevalence of disease due to State industries is a matter of conjecture, a condition which causes the necessity of such control to be less apparent.

The duties of the State board of health, regulating industrial sanitary conditions, are as follows:

(1) To make, or cause to be made, sanitary investigations and inquiries respecting the cause of diseases and the means of prevention, especially the effects of localities, employments, habits, and circumstances of life on the public health.

(2) To enter into any factory within the limits of the State for the purpose of investigating the sanitary and hygienic conditions.

(3) To examine into and advise as to the ventilation and warming of workshops.

(4) To examine into and advise as to the ventilation of coal mines and how to treat promptly accidents resulting from poisonous gases.

Medical school inspectors, when requested by boards of education, are required by law to conduct investigations, furnish information, and advise and to formulate rules of procedure on matters pertaining to the lighting, heating, ventilation, and sanitation of school buildings.

It is the duty of the State commissioner of labor or his assistants, however, to enforce the provisions of the act to protect the health of the employees in the manufacturing establishments of the State.

The provisions of the law to safeguard the health of persons engaged in occupations are as follows:

(1) For every factory, workshop, or other establishment of the State where females are employed where unclean work of any kind has to be performed, to provide suitable places for such females to wash and to change clothing \* \* \* and provide separate water-closets for the use of employees of either sex in all manufacturing, mechanical, mercantile, and other establishments in the State where persons of both sexes are employed.

(2) For all establishments to which the act applies to be kept in a clean condition; the sanitary and hygienic regulations to be such as will not endanger or be injurious to the lives or health of the employees employed therein.

(3) To make it a misdemeanor, under the law, for any person or persons, firm, or corporation of any manufacturing, mechanical, mercantile, or other establishment, business, or calling in the State in which the act applies to violate any of its provisions. Penalty: A fine of not less than \$20 nor more than \$100, and in default of payment of such fine imprisonment until such fine and costs are fully paid.

*Remarks.*—The wording of the statute (acts 1901, chs. 19, 85) should be changed to convey the intent of the law and should read: The sanitary and hygienic regulations shall control and correct conditions which may endanger or be injurious to the lives or health of the employees employed therein.

The State board of health is the proper State organization, because of the special training and experience of its members, to frame such regulations. It should be given, therefore, full authority, with fixed responsibility, to make and enforce sanitary and hygienic regulations governing health conditions in all such establishments.

The sole duty of the State board of health, with respect to the great mining industry of the State, is to act in an advisory capacity with respect to the ventilation of coal mines and how to treat promptly accidents resulting from poisonous gases. The ventilation of coal mines is an operation requiring great technical skill and is devised, primarily, to prevent explosions. The law requires the operator, agent, or mine foreman of every coal mine, whether worked by shaft, slope, or drift, to provide and maintain for every such mine ample means of ventilation, the requirements for which are in excess of that demanded for purposes of sanitation.

The State health authorities could more properly and with greater hope of benefit to community health be required to regulate the disposal of human excrement in coal mines to safeguard the water supply of mining communities.

It is as much the duty of the State to protect the health of the men, women, and children of the State engaged in industrial occupations as it is to protect them from injury through preventable accidents. The State board of health should be empowered by law and provided with sufficient force not only to make or cause to be made investigations and inquiries respecting the cause of diseases due to employments within the State, but also to prescribe and enforce regulations to correct harmful conditions wherever found. Moreover, the State board of health should be given the sanitary supervision of all labor and construction camps within the State with authority, under strict responsibility, to make and enforce regulations not only to protect the health of individuals employed therein, but to safeguard that of the communities in which such camps may be located.

#### **APPROPRIATIONS AND EXPENDITURES.**

Appropriations to the State Board of Health of West Virginia have never been in sufficient amount to enable the board to properly exercise the powers and discharge the duties imposed by law. The State board of health has been hampered in its activities from the beginning of its organization by reason of insufficient appropriations. The exact language of the original organization act in this respect is interesting, namely:

The sum of \$1,000 is hereby appropriated to pay the salary of the secretary and to meet all the contingent expenses of the officers of the board of every kind and nature whatsoever.

Subsequent appropriations to the State board of health have not exceeded the sum of \$2,500 in any one year up to 1913, when the last regular session of the legislature appropriated to the use of the board \$15,000 per annum for the years 1913 and 1914. The State board must have adequate funds and needful assistance to do effective health work. It should be remembered that appropriations for this

work that are inadequate, which do not permit the employment of necessary field, laboratory, and administrative forces for effective work, is a waste of money. On the other hand, an appropriation commensurate with the importance of safeguarding the public health, of putting a stop to the ravages of typhoid fever and other preventable diseases within the State, is an investment which will return interest far greater than at the rates of usury.

West Virginia is not as liberal with appropriations for health work as her neighbors. For example, in 1914 West Virginia, with a land area of 24,022 square miles and an estimated population of 1,326,046, appropriated only \$15,000 for health work. Maryland, a neighboring State, with a land area of 9,941 square miles and an estimated population of 1,337,342, appropriated \$145,000 for this purpose during the same period. In this respect the following table, prepared by Fox, is of interest:

*Table showing the total revenues of certain States and the amount expended by the State departments of health.*

[The tables showing the "Total expenditures, appropriations, or revenues for one year" and "Expenses for State health department for one year" were obtained from the last available reports of State auditors, comptrollers, or treasurers, or from figures kindly furnished by the secretaries of State departments of health. Some inaccuracies may have occurred in gathering together these figures, but they should interfere but little with the purpose of the table.]

State.	Population estimated as of July 1, 1911.	Total expenditures, appropriations, or revenues for one year.		Expenses for State health department for one year.	Percentage of total expenditures for work of State health department.
		Amount.	Designation.		
Massachusetts.....	3,454,813	\$15,769,351.07	Expenses, 1912.....	\$167,600.00	0.0106
Washington.....	1,218,330	7,812,627.56	do.....	15,000.00	.0019
Michigan.....	2,867,794	7,445,519.60	Expenses, 1911.....	45,500.00	.0031
Minnesota.....	2,099,451	19,313,793.96	Receipts, 1912.....	61,886.91	.0042
Rhode Island.....	558,108	3,184,761.09	Expenses, 1912.....	17,000.00	.0033
Connecticut.....	1,140,063	6,423,287.91	Appropriation, 1913.....	22,500.00	.0035
Oregon.....	672,765	4,366,047.00	Estimated appropriation, 1912.....	36,000.00	.0082
Virginia.....	2,061,612	6,600,000.00	Appropriation, 1913.....	35,000.00	.0053
Vermont.....	357,463	2,000,000.00	Appropriation, 1912.....	25,100.00	.0125
Kansas.....	1,690,949	4,320,183.50	Appropriation, 1914.....	30,550.00	.007
Indiana.....	2,723,441	11,370,969.00	Expenses, 1912.....	83,000.00	.007
Maine.....	748,233	5,366,785.75	do.....	18,250.00	.0034
New Jersey.....	2,634,583	9,657,366.11	Receipts, 1912.....	115,425.00	.012
California.....	2,456,757	8,598,502.00	Estimated appropriation, 1912.....	119,600.00	.013
New York.....	9,372,954	50,337,233.00	Receipts, 1913.....	198,510.49	.0039
Pennsylvania.....	7,831,890	29,132,646.00	Expenses, 1913.....	525,084.50	.018

The following, in general terms, were the disbursements of the State board of health for the fiscal year ended June 30, 1914:

Salaries.....	\$6,799.35
Traveling expenses.....	1,504.02
Laboratory.....	2,814.64
Miscellaneous.....	968.14
Disbursed in error.....	623.84
Total .....	12,709.99

Of this amount, \$800 was expended in the investigation of hookworm, \$100 for the prosecution of illegal practitioners, and \$50 for vaccine virus. The amount expended for salaries includes the salary of the secretary of the State board of health, his stenographer, and that of the two assistants in the hygienic laboratory.

It has been said that a State, to do effective public-health work, should appropriate 2 per cent of its total revenue to the health department. On this basis West Virginia should have available more than \$100,000 for this purpose, yet up to the present time \$15,000 has been the maximum appropriation to the State board of health in any one year.

### HEALTH ACTIVITIES CARRIED ON BY OTHER AGENCIES.

A number of the provisions of the law for the protection of the public health are administered by other agencies than the State board of health. This is shown in the following table:

Activities.	Administration.
Control of insane asylums, miners' hospitals, schools for the deaf and blind, and State tuberculosis sanitarium.	State board of control.
Enforcement of food-and-drug law.....	Prosecuting attorneys. Hotel inspectors assist in.
Inspection of dairy herds.....	State board of agriculture.
Inspection of factories.....	State commissioner of labor.
Inspection of hotels.....	Hotel inspectors.
Inspection of school buildings.....	Board of school trustees.
Inspection of schools.....	Board of education.
Investigation of water supplies furnished by persons, firms, or corporations, under charter, to municipalities.	State public service commission.
Registration of embalmers.....	Board of examiners.
Registration of nurses.....	Do.
Registration of optometrists.....	Do.
Regulation practice of dentistry.....	Do.
Regulation practice of pharmacy.....	Do.
Vaccination, compulsory.....	County courts.
Ventilation of mines.....	Mine foremen.

### OFFICERS AND MEMBERS OF THE STATE BOARD OF HEALTH.

Dr. W. W. Golden, president, Elkins.

Dr. S. L. Jepson, secretary, Wheeling.

Dr. J. L. Pyle, Chester.

Dr. J. H. Shipper, Gerrardstown.

Dr. J. E. Robins, Charleston.

Dr. J. A. Rusmisell, Buckhannon.

Dr. H. M. Rymer, Harrisville.

Dr. W. J. Davidson, Parkersburg.

Dr. H. A. Barbee, Point Pleasant.

Dr. H. A. Brandenburg, Huntington.

Dr. G. D. Lind, Ph. D., Greenwood.

Dr. George P. Daniel, Marshes.

Committee on bulletin.—Dr. S. L. Jepson, Dr. G. D. Lind, Dr. W. W. Golden.

### HYGIENIC LABORATORY.

Dr. John N. Simpson, director.

Alexander R. Whitehill, A. M., Ph. D., chief chemist; Mr. Dietrich C. Oudshoorn, assistant chemist; Dr. Aaron Arkin, Ph. D., chief bacteriologist and pathologist; Emanuel Fink, B. Sc., assistant bacteriologist and pathologist; Wm. H. Schultz, Ph. D., consulting pharmacologist.

### CONCLUSIONS.

The main conclusions reached in the foregoing study of the public health administration in West Virginia are as follows:

(1) The State public health administration is in need of reorganization.

(2) The State board of health has never been provided, since its establishment, with adequate funds to successfully administer its duties in controlling disease.

(3) The State board of health is not invested with the necessary authority or funds to employ and utilize trained assistants and adequate laboratory and field forces to make the investigations now required by the law or to effectively enforce its provisions for the protection of the public health.

(4) The State board, as now constituted, has too large a membership for effective work.

(5) The State board of health is hampered in the control of communicable disease by lack of an effective sanitary organization.

(6) The law requires reports of only the contagious and infectious diseases. This law has not been enforced and is inadequate.

(7) The present system of registration of marriages, births, and deaths is ineffective.

(8) The State board, meeting at infrequent intervals to examine applicants for license to practice medicine, can not at the same time be a successful sanitary organization.

(9) The present State health organization has but limited power to compel the abatement of nuisances.

(10) There is need of amplification of the discretionary powers of the State board relating to public water supplies, stream pollution, excreta disposal, and the sanitation of public buildings, public institutions, and labor camps.

(11) Many of the sanitary duties of the board, under the law, are circumscribed and are shared by other agencies.

(12) The general relationship of municipal health boards to the State board of health is not clear under the present law.

(13) Enforcement of the food and drug law is unsatisfactory.

(14) There is need of specific law to control and prevent the pollution of streams and other sources of public water supplies within the State. The laws intended to prevent stream pollution are not sufficiently comprehensive, and the responsibility for their enforcement rests in more than one department of the State administration.

(15) The exemption from inspection of hotels and boarding houses which have a per diem rate of \$1.50 or less, is not warranted from a hygienic standpoint.

(16) There is but a limited compliance with the act requiring medical inspection of school children.

(17) The need of the establishment by the State board of health of the minimum requirements for milk production within the State is apparent.

(18) The usefulness of the hygienic laboratory is hampered by lack of branch laboratories for the prompt diagnosis of disease in distant localities.

(19) The present quarters of the hygienic laboratory are too restricted for effective work.

(20) The State tuberculosis sanitarium could be made an educational factor in the suppression of tuberculosis under the control of the State board of health.

(21) The State board of health has been concerned with the regulation of the practice of medicine within the State, almost to the exclusion of other duties more closely related to the protection of the public health, by reason of the small appropriations for all public health purposes.

#### RECOMMENDATIONS.

The following recommendations are based on conclusions reached after a study of the public health administration of West Virginia and an analysis of the laws under which it is conducted.

(1) That a State department of health be created to exercise all the powers and duties now conferred and imposed by law on the State board of health.

(2) That a commissioner of health be appointed to be the administrative head of the State department of health.

(3) That a public health council or board be created, to consist of not more than six members, and that of this membership one be a lawyer, one a civil or sanitary engineer. Said council to be advisory to the State commissioner of health.

(4) That the commissioner of health be granted full authority to administer the health laws and regulations and to appoint and remove minor employees.

(5) That the public health council be empowered to promulgate rules and regulations and to discharge the duties now required by law of the State board of health other than administrative and executive.

(6) That the rules and regulations, not inconsistent with the law, promulgated by the public health council be given the force and effect of law and be made the minimum requirements in localities throughout the State.

(7) That there be created a division of preventable diseases, a division of sanitary engineering, a division of food and drugs, and a division of vital statistics in the State department of health, for the more effective administration of the laws relating to these respective branches of health work.

(8) That each division in the State department of health be administered by a director, under the supervision of the State commissioner of health.

(9) That the State be divided into not less than six sanitary districts, each sanitary district to be under the charge of a district health officer, who should engage in no other occupation.

(10) That district health officers in each sanitary district be given full authority, under the supervision of the State commissioner of health, to administer the health laws of the State and the rules and regulations that may be promulgated by the public health council.

(11) That the model State law for morbidity reports adopted by the eleventh annual conference of State and Territorial health officers with the United States Public Health Service be adapted to the requirements of West Virginia and enacted into law.

(12) That a law for the registration of marriages, births, and deaths occurring within the State be adopted which shall fulfill the requirements of the Director of the United States Census for such registrations; and that the administration of such law be in charge of the director of the division of vital statistics under the supervision of the State department of health.

(13) That the State department of health be given authority to inspect and examine food, drink, and drugs offered for sale or public consumption, and be made responsible for the enforcement of the food and drug laws of the State.

(14) That the State department of health be empowered to make rules and regulations, not inconsistent with law, regulating the character and location of drainage, water supply, sewers, and disposal of sewage, garbage, or other waste material of cities, towns and villages, offensive trades, and labor camps.

(15) That the State department of health be granted authority to make inspections and regulate sanitary conditions in all industrial establishments and other places employing labor within the State for the protection of employees and the prevention of occupational diseases.

(16) That the State commissioner of health be empowered to take the necessary steps to prevent or abate all nuisances affecting the public health in any county, city, town, or village within the State.

(17) That in the event of the adoption by the State of a uniform municipal incorporating law, prior to its adoption there be incorporated in it a provision to insure uniformity of local health organization and administration and responsibility of all local boards to the State health administration.

(18) That the State commissioner of health be authorized to enforce the rules and regulations of the State department of health, and to exercise all the powers given to local health authorities when



any local health authority shall fail or refuse to enforce necessary laws and regulations to prevent the spread of communicable diseases.

(19) That the State health department be authorized to promulgate regulations to provide clean and safe milk within the State.

(20) That the regulations promulgated by the State department of health to provide clean and safe milk be made the minimum requirements to be enforced by local health authorities within the State.

(21) That the State tuberculosis sanatorium be removed from the management of the State board of control, and transferred, with all its duties and functions, to the division of preventable diseases of the State department of health.

(22) That, in the event of the creation of a State department of health, the State board of health, as now constituted, be thereafter designated the State board of medical examiners, with the sole duty to examine all applicants for license to practice medicine within the State.

(23) That future appointments to the State board of medical examiners be made in such manner that, at the expiration of the term of office of all the present members of the State board of health who may have become members of the State board of medical examiners, said board shall consist of only six members.

(24) That more liberal appropriations be made to the hygienic laboratory and more adequate quarters be provided.

(25) That a branch of the hygienic laboratory be established in each sanitary district of the State when necessary for the prompt diagnosis of communicable diseases.

(26) That compulsory vaccination or quarantine be directed and enforced only by the State department of health and local health authorities; and that no other agency be authorized to provide vaccine for free distribution within the State.

(27) That the State department of health be empowered to take measures and prescribe rules and regulations to control typhoid fever and other water-borne diseases within the State.

(28) That the State health authorities be given general supervision and control of streams and other sources of public water supply in the State in so far as their sanitary and physical condition may affect the public health.

(29) That the design and construction of all proposed water and sewerage systems, sewer extensions, and refuse-disposal plants, within the State, be subject to the written approval of the State health authorities.

(30) That municipalities within the State having water and sewerage systems be required to file with the State health authorities complete sets of the plans and specifications of such water and sewerage systems.

(31) That municipalities be authorized to raise sums of money to secure safe and wholesome water supply and to secure the safe disposal of sewage in addition to the amount such municipalities are now authorized to raise by law for corporation purposes.

(32) That all sums of money authorized to be raised for purposes of municipal sanitation, in excess of that now authorized by law for corporation purposes, be expended on the approval and under the supervision of the State health authorities.

(33) That the State health authorities be empowered to establish bacteriologic and other standards of maximum permissible contamination of public water supplies and to compel the maintenance of such standards by approved and appropriate methods.

(34) That the State health authorities be given power to order and compel the construction and maintenance of sanitary privies at all schools, public buildings, and other public institutions where privies are in use.

(35) That at least 2 per cent of the total appropriations of every county within the State be set aside for the improvement and protection of the public health therein.

(36) That provision be made whereby two or more towns, or counties, or towns and counties may combine, for purposes of public health administration, and for the employment of trained health officers to devote their whole time to such duty.

(37) That provision be made whereby school hygiene, including inspections of school children, be placed under the control of the State health organization, and that wherever possible the duties and pay of local health officers and medical school inspectors be combined to secure the whole-time services of trained officers in such dual capacity.

(38) That the investigation of the prevalence of trachoma be extended; and that inexpensive hospitals for the treatment of this disease be established and maintained in the heavily infected localities in the State.

(39) That the law be amended to require inspections of all hotels and boarding houses within the State to correct insanitary and unhygienic conditions.

(40) That it be made unlawful to maintain towels for common use in any public place within the State.

(41) That all itinerant physicians and vendors of drugs within the State be required to furnish proof of their fitness to prescribe and dispense drugs, in addition to the imposition of a special tax now exacted by the law.

(42) That the salary of the State commissioner of health be not less than \$5,000 per annum.

(43) That the salaries of district health officers be not less than \$2,000 per annum.

(44) That the salaries of directors of divisions be not less than \$2,500 per annum each.

(45) That the State health organization be provided with suitable offices, necessary equipment, and adequate clerical, laboratory and field forces to effectively administer the public health laws of the State.

(46) That not less than \$65,000 be appropriated annually to defray the expenses of the reorganization of the State health organization and the carrying on of its work.

(47) That a special appropriation of \$3,000 be made to carry on extension work in connection with the education of the public in sanitation and in the control of preventable diseases.

(48) That members of the public health council and members of the State medical examining board be allowed \$10 per diem and other necessary expenses while in the discharge of their duties in lieu of the present allowance.

(49) That the State commissioner be allowed necessary traveling and other expenses when attending meetings and conferences, beyond the limits of the State, in the interest of the public health.

## BIOLOGICAL PRODUCTS.

### ESTABLISHMENTS LICENSED FOR THE PROPAGATION AND SALE OF VIRUSES, SERUMS TOXINS, AND ANALOGOUS PRODUCTS.

The following table contains a list of the establishments holding, on December 31, 1914, licenses issued by the Treasury Department in accordance with the act of Congress approved July 1, 1902, entitled "An act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes."

The number of the license of each firm is also given, together with the names of the several products for which licenses have been granted.

No. of license.	Establishments.	Products.
1	Parke, Davis & Co., Detroit, Mich.....	Antigonococcic serum; antimeningococcic serum; antirabic virus; antistreptococcic serum; antitetanic serum; antitubercle serum; diphtheria antitoxin; erysipelas and prodigious toxin; normal horse serum; thyroidectomized horse serum; tuberculin; vaccine virus; bacterial vaccines made from acne bacillus, acne diplococcus, colon bacillus, Friedlander bacillus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, streptococcus pyogenes, and typhoid bacillus; and modified bacterial derivatives prepared from colon bacillus, diphtheria bacillus, gonococcus, pneumococcus, pyocyaneus bacillus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, and streptococcus pyogenes.